



Army

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Soldier Enhancement: Ethical Risks and Opportunities

Matthew Beard, Jai Galliot and Sandra Lynch

Abstract

Over the past decade, interest in human enhancement has waxed and waned. The initial surge of interest and funding, driven by the US Army's desire for a 'Future Force Warrior' has partly given way to the challenges of meeting operational demands abroad. However the ethical opportunities provided by soldier enhancement demand that investigation of its possibilities continue. Benefits include enhanced decision-making, improved force capability, reduced force size and lower casualty rates.

These benefits — and enhancement itself — carry concomitant risks, including morale issues due to tension between enhanced and unenhanced soldiers, the issues of enhanced veterans and ownership of enhanced bodies, challenges to the army's core values and personal identity issues. A range of measures should be designed to highlight the opportunities offered by enhancement while also minimising the potential risks. This includes providing advice on which areas the army ought to demonstrate restraint in research for ethical reasons.

Introduction

Modern military research and weapons development are marked by the ongoing pursuit of a dehumanised battlespace replete with robots, drones and other unmanned systems. While there are a number of reasons for this, one is certainly the desire to remove the 'human element' from combat: emotion, error and the physical limitations of human combatants (including mortality) and the risk of overwhelming decision-making capacities. However, a rival school of thought is beginning to emerge that notes the continuing importance of the human element in combat and aims to *improve* human combatants rather than replace them. This is the field of military human enhancement.

Enhancement is defined as 'a medical or biological intervention to the body designed to improve performance, appearance, or capability besides what is necessary to achieve, sustain or restore health'.¹ This article will explore some of the ethical opportunities provided by the enhancement of soldiers in the Australian Army, focusing on areas of moral concern. Its purpose in doing so is to ensure decision-makers developing official army policy on these matters consider and understand all the relevant ethical issues.

Military human enhancement: ethical opportunities

It is important to distinguish between the different types of opportunities that might be provided by military human enhancement. Not every advantage offered by enhancement is ethical in nature. This is not to say that these advantages are unethical; rather, it is to suggest that the advantages they offer are functional, strategic, pragmatic or otherwise not specifically concerned with whether an action is inherently good or bad, which is the domain of ethics.

In some cases, military advantages may also be ethical advantages (for instance, a soldier who can stay alert for extended periods may be in a position to make better ethical judgements due to a lack of fatigue), but these second and third-order consequences of enhancement are beyond the domain of this discussion. The analysis that follows will address two major advantages presented by military human enhancement.

1. *Decreased combat force size*

One ethical benefit of the human enhancement of soldiers is the possibility that, as the capabilities of individual combatants increase, the demand for large numbers of combatants in order to wage war will — all other things being equal — decrease.² This, in turn, will generate decreased numbers of combat forces over time.

The diminished size of military forces around the world has a tangible ethical consequence — reduced rates of casualties. Although the death of any combatant is tragic, if the military enhancement of some soldiers means that fewer combatants are killed overall, the net gain in terms of human lives spared improves the ability of a military force to adhere to moral norms.

The reason that this is an ethical advantage is because the morality of war has traditionally insisted that military conflicts are only morally acceptable when the anticipated benefits of conflict outweigh the concomitant harms. The most obvious example of this occurs in just war theory, a moral framework for war that originated over 2000 years ago in which proportionality is a crucial moral principle both *ad bellum* (before combat) and *in bello* (during combat).³ The most obvious harm in war is the widespread loss of life to both combatants and non-combatants; these deaths need to be weighed against any anticipated benefits and shown to be acceptable costs before a war can be considered justified.⁴ Hence, if the anticipated combatant deaths were fewer, this would increase the possibility of achieving proportionate conflict.

This is particularly significant because of the importance of popular and political support for war in Australia and the West, and the increasing intolerance of civilians and military decision-makers alike to even minimal casualties. This view may make it difficult for even morally justified military engagements to be undertaken. However, if enhanced military personnel are more physically adept, psychologically resilient, and more likely to survive, this may empower the military to engage in wars that are morally necessary, but which have been previously regarded as politically untenable due to civilian resistance to the possibility of military casualties.⁵

The same principles that make enhancement appealing due to the potentially reduced casualty rate also explain why human enhancement may provide second-order ethical opportunities. Although the most substantial and dramatic consequences of war involve the loss of human life, the

material damage to property and infrastructure is also significant and must affect judgements of proportionality. If human enhancement offers the possibility for smaller sized forces than are presently required to effectively wage war, a beneficial side-effect of this may be the reduced size of the theatre of war. This, in turn, may result in a reduction in the extent of damage or destruction to civilian infrastructure during conflict.

1.1 *Resort to war*

To maximise these advantages, however, it will be crucial for the army to recommit to other values present in the *ad bellum* doctrine, such as just cause, right intention and last resort, lest the promise of reduced casualty rates become a force multiplier by lowering the threshold for war. If a major objection to the use of force is the anticipated casualties and destruction of infrastructure, and reduced force sizes decrease the risk of these, then military human enhancement may undermine the proportionality barrier to implementing military force.

This may not be an insurmountable problem because proportionality is not the only condition by which the use of force is legitimated. Equally important are conditions such as the justice of the cause, the intentions behind the use of force, and the requirement that force be used only as a reasonable last resort. However, although these conditions are integral aspects of just war theory, the moral framework that has informed most reflection on the use of force both in Western armed forces and international law, they may not receive the same attention in practice. When military force is contextualised within a particular political climate, it may be that only those conditions that have the highest public profile will receive due attention — in this case, proportionality. However, if the army is to retain its moral authority both within Australia and in the global community, it will need to retain its deep and abiding commitment to conscientious moral regulation of the use of force, even if the risk of casualties is diminished by human enhancement.

1.2 *Staggered force reduction*

Furthermore, although it is evident that there are ethical advantages that may emerge from combat force reduction, the actual reduction in force size needs to be implemented slowly and carefully to ensure that the ethical advantages gained by the army do not impose burdens on the broader community or the Department of Veterans' Affairs. A large-scale force reduction over a short period of time risks leaving a far greater population of

veterans facing re-integration issues than the Department of Veterans' Affairs could reasonably hope to manage in an efficient manner. With processing difficulties in the early stages of discharge already a factor in the number of veterans either unemployed or homeless, the failure to patiently and gradually reduce force sizes in line with the existing rate of retirement from the army is likely to lead to a whole new category of ethical difficulties.

2. *Enhanced decision-making*

One of the more interesting areas of human enhancement in the military concerns the ability to use particular drugs to change a soldier's neural functioning in order to enhance capability. Much of this already takes place; for instance, in the United States (US) Air Force pilots are provided with modafinil, a drug that enhances alertness and focus and allows a person to function for up to 60 hours without sleep.⁶ If advances in psychopharmacology can be used to alter a person's level of alertness, and there is an immense market for using similar drugs to alter mood, then similar kinds of intervention may improve decision-making in a way that produces ethically desirable outcomes. While it is beyond the scope of this discussion to discuss the viability or extent to which these interventions will become reality, this article will outline some general ethical opportunities for continuing research in this vein, as well as potential pitfalls that must be addressed carefully.⁷

2.1 *Protection of non-combatants*

Military ethics includes a range of principles that govern how combat is undertaken and what is justifiable during armed conflict. Arguably the most important of these norms is discrimination or non-combatant immunity. This condition — also enshrined in international law — requires combatants to avoid intentionally targeting those who are not involved in conflict and, by extension, requires those combatants to take reasonable risks to ensure that non-combatants are not harmed as a side-effect of permissible military operations.

At first glance, it may be unclear how enhancement offers the possibility of improved adherence in this area, as army personnel are already aware of and committed to protecting non-combatants, with their own lives if necessary. The opportunities presented by enhancement are not aimed at improving the moral character of soldiers, but rather at their ability to comprehend complex situations and reach ethical judgements quickly, as

well as their ability to control emotional responses that may make ethical judgements more difficult. In this case, the enhancement is actually to neural processing, but with second-order ethical advantages. For instance, enhanced soldiers might be more readily able to determine whether a momentary glimpse of movement during a firefight is a non-combatant running for cover, an ally, or an enemy combatant looking to flank their position. In this case, improved situational processing may lead to better consequences for non-combatants in conflict.

Another case in which human enhancement may have an explicitly ethical effect is in restricting the strength or experience of ‘counter-moral emotions’ in soldiers. Although extremely well trained and motivated, soldiers are still prone to occasionally experiencing emotions that lead them to act in ways they otherwise would not. Thomas Douglas explores this possibility, writing that:

Enhancement might consist in the attenuation of counter-moral emotions: emotions that interfere with moral reasoning, sympathy, and all other plausible candidates for ‘morally good motives’ ... Biomedical moral enhancement might sometimes consist in the biomedical attenuation of these emotions.⁸

For example, in 2005 US soldiers responded to the death of a member of their company from a roadside bomb by killing 24 Iraqi civilians in the nearby town of Haditha. Military philosopher Nancy Sherman contends that ‘the events of Haditha [should be seen] through the lens of traditional revenge and honour. The Haditha rampage took the form of a reprisal raid, inspired by the US brigade experiencing the killing of one of their own.’⁹

It is plausible to assume that the visceral reaction to seeing the death of a person who is not merely a colleague but also a brother or sister-in-arms would result in overpowering feelings of hatred, diminished empathy or aggression that ideally would not be in the psychological make-up of military professionals. Jonathan Shay describes these situations as ‘berserk states’, ‘in which abuse after abuse is committed’.¹⁰ To Shay,

The berserker is figuratively — sometimes literally — blind to everything but his destructive aim. He cannot see the distinction between civilian and combatant or even the distinction between comrade and enemy.

Berserk states are, Shay suggests, uncommon but not unheard of in complex military environments. They tend to result in a soldier losing all sense of vulnerability and propriety and entering into a state of ‘reckless frenzy’. They are also, in a sense, natural responses — ‘when a soldier is trapped, surrounded, or overrun and facing certain death, the berserk state has apparent survival value’ and, because of this, it is difficult to predict who will be susceptible to the berserk state, or when it might occur.

In this case, any form of biomedical intervention that might suppress the berserk response, or other forms of counter-moral emotion, would have obvious ethical advantages for the army. On the reduction of aggression as a moral enhancement (or, at least, a human enhancement with morally desirable outcomes), Douglas notes that,

If I am present when one person attacks another on the street, impulsive aggression may be exactly what is required of me. But, on many other occasions, impulsive aggression seems like a very bad motive to have ... [Therefore] a reduction in violent aggression would qualify as a moral enhancement.¹¹

It then seems reasonable that if a biomedical intervention were able to restrict impulsive aggression in cases of elevated adrenaline or when experiencing trauma, such an enhancement might have ethical benefits for the treatment of non-combatants by reducing the prevalence of ‘berserk states’ and might be ethically defensible.

2.2 Decision-making and the emotions

However, despite the possible advantages provided by human moral enhancements to decision-making and emotion regulation, there are several reasons to be cautious before embarking on research, development and implementation in this area. First, the presumption that underlies this enhancement approach is that the emotions are, at least occasionally, pathological in nature and therefore a distraction to rational decision-making. However, this school of thought, which finds its strongest intellectual ally in the work of Immanuel Kant, is only one philosophical account of rationality.¹² Other accounts see the emotions as inseparable from the way that human beings evaluate events and the world around them, such that to dull or repress emotion would not *enhance* decision-making, but detract from it.

For example, Sherman argues that ‘emotions ... are complexes that include evaluations and affects, and that in some cases, though not all, lead to desires to act’.¹³ If so, simply to repress the emotions *may* restrict unethical behaviour, but it may also restrict ethical behaviour motivated by the appropriate emotions. In Douglas’s earlier example, an ‘enhanced’ person whose impulse for aggression was suppressed would be less likely to move in defence of a victim of unjust attack. As such, the army will need to work closely with philosophers, psychologists, and behaviouralists to determine precisely what role the emotions have in ethical and unethical behaviour in order to understand when, or if, it is appropriate ever to suppress them.

2.3 Military enhancement, autonomy and consent

A third question that the army would need to clearly address and then communicate to existing personnel and new recruits alike is whether undertaking enhancements that affect emotional responses will be mandatory or voluntary. There are merits to each position. The primary concern with mandatory enhancement in the broader ethical literature surrounds individual freedom. As Michael Selgelid explains, ‘compulsory bioenhancements remove the freedom to choose whether or not to be morally enhanced’.¹⁴ This is particularly troubling in a medical context in the West where respect for patient autonomy is among the most crucial principles of biomedical ethics.

However, Selgelid continues, there are also concerns over voluntary moral enhancement:

*A reason to worry about reliance on voluntary moral bioenhancement, in any case, is that those most likely to commit heinous acts with catastrophic consequences are probably not especially likely to volunteer for moral enhancement.*¹⁵

Furthermore, he adds:

*Freedom is not the only thing that matters morally. We sometimes rightly infringe on people’s freedoms in order to promote achievement of other societal goals such as utility (ie, aggregate well-being).*¹⁶

This latter argument is particularly interesting in a military context, where soldiers forego particular rights — including particular medical rights — to improve the ability of armed forces to defend the nation. Soldiers commit,

Patrick Mileham argues, to a relationship of ‘unlimited liability’ when they enlist,¹⁷ and in doing so waive particular rights including, as Michael Gross states, ‘their autonomy, privacy, right to informed consent, and right to refuse particular treatments’.¹⁸ As such, there is precedent for the army to make human enhancement a compulsory medical intervention if it is deemed necessary, a determination which the army ought to invest considerable time and resources in making.

Military enhancements: ethical risks

1. Challenges to core army values

The Australian Army lists four values — courage, initiative, respect and teamwork — as ‘the bedrock to everything [it does]’.¹⁹ These institutional values form part of what Shannon E. French calls ‘the warrior code of honour’.²⁰ Embodying these values, and the virtues by which they are expressed, represents what it means to be an Australian soldier. For many soldiers, their profession occupies a large element of their self-identity. However, as French explains, warrior identity is defined in part by the narrative tradition of the warrior community. As such, there is a real risk that enhanced personnel will challenge the army’s core values to such an extent that they will contest what it means to be an Australian soldier. In so doing, they may challenge, undermine or redefine core army values.

Courage is one of the most frequent virtues mentioned in connection with military life. Christian Enemark is not alone in arguing that ‘physical courage is the most important military virtue’.²¹ However, as Enemark notes, military conceptions of courage are frequently predicated on the notion of war as a contest. Warfighters whose risk of injury or death is severely restricted or eradicated (Enemark focuses on unmanned aerial vehicle pilots) are not courageous warriors but ‘post-heroic’ soldiers. The very ability of these soldiers to be heroes vis-à-vis courage is eliminated.²² Enemark’s discussion of physical courage is significant because the army’s own account of courage as a value includes reference to both physical and moral courage.

Of course, the discussions diverge insofar as enhanced soldiers *do* still encounter risk in their operations; they are not entirely removed from danger in the same way as drone pilots. However, as enhanced personnel are likely to feel less vulnerable and enjoy real physical advantages over many

opponents, their presence still undermines an account of war as a contest. As such, an intrinsic aspect of warrior identity and honour is diminished. Enhanced warfighters may risk feeling shamed for taking what might be seen as an 'unfair advantage' in combat; on the other hand, the importance of physical courage as a core value for the army may also be diminished as more enhanced soldiers engage in less evenly contested combat situations.

There are two ways in which the army can minimise the risks posed to courage as a core value. First, it can emphasise that a major motivation in seeking human enhancement is not to gain a tactical advantage over unenhanced enemies, but to provide Australian soldiers a level playing field in a contest against enhanced opponents. In this way, criticisms based on the war-as-contest view will have no basis. Furthermore, courage-based criticisms could be rebuffed if the army were to move away from a conception of courage as derived from war as a contest. If the army were to consider all forms of courage as *moral* courage, it could begin to account for courage as the ability to do what is right, despite the difficulties involved, without risking the conflation of courage with the experience of physical risk.²³

The values of respect and teamwork also risk being challenged or undermined by the inclusion of enhanced soldiers. As French's work suggests, warrior communities rely heavily on honour, both moral and practical, which is afforded based on how well a person fulfils the demands of being a warrior. Ideally, enhanced soldiers would better fulfil those requirements than their unenhanced peers. This risks developing a culture of resentment, disdain and disconnection between enhanced and unenhanced soldiers that is detrimental to respect and teamwork within the army. One way of overcoming this may be to avoid making divisions on the basis of enhancement status and instead utilise blended divisions to encourage social cohesion and cooperation.

2. Legal difficulties

The use of enhanced warfighters prompts new legal difficulties that warrant close attention by the army and collaboration with military and international lawyers to ensure army policy does not undermine or violate the law of armed conflict (LOAC). Perhaps the chief challenge to LOAC concerns the legal status of enhanced warfighters. There is some debate as to whether the enhanced warfighter might be classified as a weapon under international

law, and therefore be subject not only to LOAC as a human agent, but also to weapons review subject to Article 36 of the Geneva Conventions.²⁴ This question is important for purposes of legal governance, but also gives rise to another pressing concern, namely the question of how to assign moral responsibility in cases of enhanced warfighters.

If a weapon is deployed in violation of international law, intuition suggests that the person wielding it will be held responsible. The weapon is not a moral agent, which is why it is assigned a separate moral and legal status from the combatant. However, this analogy may not extend to enhanced warfighters, who are simultaneously weapon and wielder. Legal difficulties may arise in future if soldiers who violate LOAC blame their enhancements for these violations. If warfighters are also classified as weapons, there are real difficulties in assigning moral or legal culpability to their actions.

Perhaps the most obvious way of addressing this difficulty is to avoid use of enhancements that might lead to a warfighter being assigned 'weapon' status. How (or if) this is possible will require further research, but one possibility would be to ensure physical enhancements are accompanied by neurological and, where possible, moral enhancements. However, it will also be critical to ensure that all warfighters and commanding officers are fully aware of their moral and legal status under international law prior to the deployment of any enhanced personnel, and that any issues of moral responsibility are resolved, disclosed and accepted by involved parties (medical scientists, officers, soldiers, engineers, etc.) prior to the implementation of any such technologies.

3. *Treatment of enhanced veterans*

The final area of ethical concern regarding enhanced personnel is how to deal with discharge when their service is complete. This involves two major concerns. The first is how enhanced personnel will be able to adapt to day-to-day civilian life outside the military. As many authors have noted, veterans already face difficulties re-engaging with civilian society and risk being 'exiled' in various ways.²⁵ If these personnel are also equipped with enhanced physical or cognitive abilities, the dissonance between war and peacetime (itself a source of psychological distress) is likely to deepen.²⁶

A second difficulty arises if enhanced personnel seek further employment in other force-deploying professions such as police officers, security staff or private mercenaries. This employment path is not uncommon, but it

provokes serious ethical and governance issues as many of the ethical justifications for enhancement in a military context will not be applicable in these other professions. However, to prohibit enhanced veterans from seeking employment in these fields may provoke psychological episodes, violate anti-discrimination employment law and, in extreme cases, lead to criminal activity by enhanced veterans.

It is not immediately clear how to overcome these difficulties apart from providing extensive psychological and family support for enhanced personnel and perhaps providing them ongoing gainful employment within the military where possible. In this the army will need to work closely with the Department of Veterans' Affairs to monitor the well-being and activity of enhanced warfighters.

A final issue concerning the treatment of enhanced veterans relates to the ownership and control of the military technology that now resides within the body of these veterans. Military interest requires that this technology be closely controlled and guarded to avoid its use or re-purpose for unethical reasons. However to do this in cases where human beings *are* the technology may risk violating their autonomy and failing to respect them as fully rights-bearing citizens in the post-war context. It may be that the army requires all warfighters to consent to prolonged control over their activities and bodies prior to receiving enhancements. But, as Nicholas Evans and Jonathan Moreno note, 'enhancement might well turn out to be forever. Whether a warfighter is able to consent to this type of relationship — whether they should be *able* to do so — should be a serious question in future works on the subject.'²⁷

Conclusion

Military enhancement provides a range of opportunities for the army to pursue not only military, but ethical goals. These enhancements may also provide increased adherence to the ethical principles that govern armed conflict. However, this also gives rise to a range of ethical challenges, several of which do not attract easy answers. This study highlights some ethical baselines that decision-makers should treat as inviolable. It also reveals some factors that decision-makers would be wise to consider before reaching a conclusion on the extent to which enhancement is a

viable option. This article recommends that armies not pursue human enhancement before considering the following:

1. Development of institutional measures to ensure respect for the autonomy of soldiers in the experimental and implementation stages. Doctors and medical scientists must provide sufficient information concerning health risks, and officers and lawyers must ensure that soldiers understand the moral and legal implications of enhancement. Only once soldiers demonstrate an understanding of these risks can they be considered acceptable candidates for enhancement.
2. Recommitment to the morality and laws of war, in particular, to conditions restricting the use of force to situations where it is necessary, justified and proportionate.
3. Liaison with lawyers, philosophers and other experts to resolve issues of ownership concerning enhancement, in particular, how these apply to veterans whose services have concluded.
4. Engagement with lawyers and philosophers to resolve questions of moral and legal responsibility for enhanced soldiers, engineers, scientists, officers and other stakeholders. The army must ensure these groups are aware of, and consent to, their responsibilities.
5. Obtaining guidance from psychologists, behaviouralists and philosophers to ensure that suppressing or enhancing particular emotions will not undermine important moral or psychological processes.
6. Engagement with the Department of Veterans' Affairs to provide re-integration and post-war support for both enhanced and unenhanced veterans.

THE AUTHORS:

Dr Matthew Beard is a military ethicist and philosopher. He is an Adjunct Lecturer in the School of Humanities and Social Sciences at UNSW Canberra, and writes publicly on matters of moral philosophy and ethics. Matthew was awarded his PhD from the University of Notre Dame Australia for a thesis entitled 'War Rights and Military Virtues: A Philosophical Reappraisal of Just War Theory,' and was the inaugural recipient of the

Morris Research Scholarship from Notre Dame. He has discussed subjects including military ethics, moral injury and PTSD, cyberwar, torture, and medical ethics amongst others in book chapters, scholarly articles, radio interviews, public opinion pieces, and at academic conferences both domestically and internationally.

Dr Jai Galliot is a Postdoctoral Research Fellow in Indo-Pacific Defence at the University of New South Wales, Kensington. His research examines the ethical, legal and strategic challenges associated with the employment of drones, cyber systems and soldier augmentation technologies. He is author of *Military Robots: Mapping the Moral Landscape* and editor of numerous books, including *Super Soldiers: The Ethical, Legal and Social Implications*, *Commercial Space Exploration: Ethics, Policy and Government* and *Ethics and Intelligence Collection: Technology and the Future of Spying*. He has performed contract research for a number of government organisations and spoken on defence and strategic studies for ABC Television, BBC World Service, Triple M, and The Wire. He has also written for *The Sydney Morning Herald* and *The Canberra Times*. Prior to entering academia, he served as a commissioned officer in the Royal Australian Navy.

Professor Sandra Lynch is Director of the Institute for Ethics and Society and Professor of Philosophy, University of Notre Dame Australia (Sydney campus). Dr. Lynch is a moral philosopher, with expertise in applied and professional ethics, ethics and values education, the constitution of the self, friendship, critical thinking, and the intersection of philosophy and literature. Her most recent work has been focussed on responding to the need to deepen students' active engagement in ethical discourse and to enrich their studies by including a focus on the demands of acting on one's values in complex workplace and social settings. Her research into best practice in the teaching of ethics is underpinned by a commitment to ensuring that our students develop the confidence and competence to contribute to the flourishing of their professions and of the societies of which they are part.

ENDNOTES

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- 2 Notably, one factor that would need to be equal is the lack of enhanced personnel on the opposing side. Decreased force sizes rely on force asymmetry for success. In the case of symmetrically enhanced enemies, this advantage will be reduced.
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Autonomous weapon systems, international law and meaningful human control

By Captain Cindy Kua

ABSTRACT

The rapid advances in robotic technologies and the successful use of existing unmanned and autonomous platforms has generated significant debate on the use of autonomous weapon systems (AWS). The debates surrounding AWS have centred primarily on legal and ethical concerns and also whether machines can ever emulate the psychology of the human decision-making process. Incredibly, this discourse occurs in the absence of a common or accepted legal definition of 'AWS', including what criteria or standard should be used to determine the degrees or levels of autonomy. However, there is recognition and acceptance of the importance of retaining 'meaningful human control' in the employment of AWS, particularly in the critical functions of the selection and prosecution of targets. This article will discuss whether a national policy developed by Australia should expressly articulate the requirement for meaningful human control, the development of an international regulatory regime for AWS and whether any changes to international law are required.

Introduction

The rapid advances in robotic technologies and the successful use of existing unmanned and autonomous platforms has generated significant debate on the use of autonomous weapon systems (AWS).¹ The amount of discourse generated on AWS is not surprising given the increased military interest in employing these systems and the interest groups which are concerned about the military's use of such systems. Indeed there are even human rights groups, academics and security experts who have called for an outright ban on the use of AWS.² While weapon systems with significant autonomy in target selection and attack are already in use, fully autonomous systems that independently determine their actions and make complex decisions based on their environment do not exist.³ In fact, such technological capability is unlikely to be fully developed in the foreseeable future.⁴ The debates surrounding AWS have centred primarily on legal and ethical concerns and also whether machines can ever emulate the psychology of the human decision-making process. Incredibly, this discourse occurs in the absence of a common or accepted legal definition of 'AWS', including what criteria or standard should be used to determine the degrees or levels of autonomy. However, there is recognition and acceptance of the importance of retaining 'meaningful human control' in the employment of AWS, particularly in the critical functions of the selection and prosecution of targets.⁵ Again, there is more debate and no clarity on what constitutes 'meaningful human control'.

A recent Senate inquiry into the 'Use of unmanned air, maritime and land platforms by the Australian Defence Force' made a number of recommendations, including that the Australian government make a policy statement on the use of armed unmanned platforms⁶ and that it support international efforts to establish a regulatory regime for AWS, including those associated with unmanned platforms.⁷ This article will discuss whether a national policy developed by Australia should expressly articulate the requirement for meaningful human control, the development of an international regulatory regime for AWS and whether any changes to international law are required. First, however, it is important to define precisely what constitutes an AWS.

Autonomous weapon systems

Currently there is no agreed definition of an AWS, although it has been defined according to the level of human supervision and/or input over target selection and attack. For example, the United States (US) Department of Defense refers to 'autonomous weapon system', 'human supervised autonomous weapon system' and 'semi-autonomous weapon system'.⁸ Human Rights Watch uses the terms 'human-in-the-loop', 'human-on-the-loop', and 'human-out-of-the-loop' which are defined according to the level of human input and supervision.⁹ Other definitions have also been provided by the United Nations (UN)¹⁰ and the International Committee of the Red Cross (ICRC).¹¹

Any mention of AWS often automatically conjures images of drones or unmanned aerial vehicles (UAV). However, according to the ICRC definition of AWS, the current use of drones and UAVs does not fall within the ICRC's AWS definition as targeting and firing is performed remotely by a human operator. An examination of the various definitions by the ICRC found that common to all is 'the inclusion of weapon systems that can independently select and attack targets with or without human oversight' and the 'exclusion of weapon systems that select and attack targets only under remote control by a human operator'.¹² For the purposes of its summit on 'Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects' in 2014, the ICRC defined AWS as 'weapons that can independently select and attack targets, i.e. with autonomy in the "critical functions" of acquiring, tracking, selecting and attacking targets'.¹³ That definition is adopted for the purposes of the discussion in this article.

Meaningful human control

The notion of meaningful human control has gained increasing attention and focus, with some advocating for it to be installed as a legal norm.¹⁴ This is a phrase first used by Article 36, a British non-government organisation which argued that lethal decision-making should require 'meaningful human control'.¹⁵ The Convention on Conventional Weapons (CCW) held its first meeting on autonomous weapons from 13 to 16 May 2014. The meeting was attended by delegations from 87 countries, the UN, ICRC, interest groups and independent experts and academics. During this meeting,

meaningful human control emerged as a major theme. Austria, Croatia, Germany, Norway and Switzerland strongly supported a requirement for human control over individual attacks.¹⁶ The appeal of the notion of meaningful human control lies in its ability to address the legal and moral issues surrounding the use of AWS, namely:

- the accountability gap that is created when AWS behave in an unpredictable manner, particularly when systems become more complex and operate in more complex operational environments for extended periods¹⁷
- the delegation of moral responsibility for killing to machines¹⁸
- the inability of machines to conduct qualitative decision-making in complying with international humanitarian law¹⁹

What is meant by 'meaningful' does not appear to be significant. An Article 36 briefing paper emphasised:

It should be noted that whilst this paper uses the term 'meaningful human control' there are other terms that refer to the same or similar concepts. These include 'significant', 'appropriate', 'proper', or 'necessary' 'human judgement' or 'human involvement'.²⁰

Having examined both Article 36's policy paper and the International Committee for Robot Arms Control's statement on meaningful human control, Horowitz and Scharre conclude that informed action is central to meaningful human control.²¹ While just how much information is required will depend on the circumstances of a particular use of an AWS, it needs to be sufficient for a person to make an informed decision on the lawfulness of an action.

An examination of the current use of less controversial weapons assists in understanding what it is about AWS that raises concerns over meaningful human control. There are three essential components of meaningful human control:

1. human operators make informed, conscious decisions on the use of weapons
2. human operators have sufficient information to ensure the lawfulness of their action on the basis of what they know about the target, the weapon, and the context

3. the weapon is designed and tested, and human operators are properly trained to ensure effective control over the use of the weapon²²

There are two different views on where and how meaningful human control fits into the existing framework for weapons review and the law of armed conflict (LOAC).²³ According to the first view, meaningful human control is not an additional requirement as it is assumed that the existing rules that determine whether the use of a weapon is legal do not make a distinction as to whether it is a human who makes the attack directly or an AWS that selects and engages targets on its own — it is merely a principle to be considered in the design and use of AWS. The alternative view is that meaningful human control is a new addition to the law, essentially a new principle of LOAC on par with proportionality, distinction and military necessity. This latter view asserts that the existing principles are insufficient to address concerns over the use of AWS. However, the existing law is clearly sufficient. The next section of this article will describe how, in order to comply with the existing law, commanders and users of AWS will invariably inject human control into the decision-making processes from acquisition to use of AWS.

Law of armed conflict and meaningful human control

Those calling for a ban on AWS have also sought additional treaty law. However, LOAC already provides a legal framework sufficient for the regulation of the use of AWS. Article 36 of Protocol I requires that:

*... in the study, development, acquisition or adoption of a new weapon, means or methods of warfare, a High Contracting Party is under no obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.*²⁴

Weapon systems that are autonomous are not illegal per se under the three rules applied when conducting a weapons review:

- the weapon system cannot be indiscriminate in nature
- the weapon system cannot be of a nature that will cause unnecessary suffering or superfluous injury
- the harmful effects of the weapon must be capable of being controlled²⁵

An AWS can be pre-programmed with sufficient parameters to allow it to discriminate and target on the same legal terms that would apply to a human soldier, particularly if operating in a non-complex operating environment and given the limitations of current robotics technology. The rules against unnecessary suffering and harmful effects can also be met by programming the AWS to attack using only certain weapons systems. As a result, AWS remain legal and fit the parameters established by the Australian Department of Defence.²⁶

Even if a weapon is deemed legal, under Article 36 it must still comply with LOAC relating to targeting. Targeting law concerns the *use* of lawful weapons. It includes three principles: distinction, proportionality and the requirement to take precautions in attack.

The principle of distinction requires that a distinction is made between combatants and non-combatants and between military and civilian objects.²⁷ The ability of an AWS to make these distinctions will vary depending on the operational environment and context and the technological capability of that weapon system including the complexity of the computer algorithms and data sets. Clearly, the ability of an AWS to comply with the principle of distinction will depend very much on technological advancements. That said, Thurnher points out that there may be 'situations in which an autonomous weapon system could satisfy this rule with a considerably low level ability to distinguish between civilian and military targets.'²⁸ It would require far more complex technology for a machine to make such distinctions in an urban environment.

Proportionality requires that anticipated civilian harm is not excessive when weighed against the reasonably anticipated concrete and direct military advantage.²⁹ Similar to the principle of distinction, there are operational circumstances in which civilian presence is unlikely, such as a battle waged

in open desert where there are no civilian inhabitants and under-sea anti-submarine operations. It would be difficult for a machine to apply the proportionality test in an urban environment. That said, the ability of humans to apply this ambiguous test is also questionable.³⁰ There is no precise formula and its assessment relies heavily on the judgement of the human soldier.

The principle of precautions in attacks requires feasible precautions to be taken in an attack to reduce harm to civilians.³¹ What is feasible is determined by the commander and is usually addressed in the planning for an overall attack rather than a decision made at the tactical level.³² Assessing the precautions at the stage of planning and programming a machine would be sufficient to comply with the principle if the 'planning assumption' remains valid for the duration of the AWS's deployment.³³

The AWS currently in use are employed in less complex environments. However, advances in technology will see a push to use these systems in more varied environments where civilians are more likely to be present. Generally, before a weapon system — autonomous or not — is employed, commanders will continue to exercise judgement concerning all the factors relevant to assessing the three targeting principles. These may include the likelihood of civilian presence, the expected military advantage, the anticipated harm to civilians, the weapons' capabilities and the limitations of the weapon system. Therefore, whether legal considerations are met in a particular attack will go beyond an assessment of a machine's programming and technical abilities to include human judgement in making the decision to use the machine for the particular attack in the first place. For these reasons, Kenneth, Reisner and Waxman conclude that:

*... there is no reason, in principle, why a highly automated or autonomous system could not satisfy the requirements of targeting law. Like any otherwise lawful weapon, it depends on the use and the environment.*³⁴

At which stage of the process — planning, programming, execution — human control is to be injected to the extent of being considered 'meaningful human control', will depend on the particular AWS used and the operational context. Accordingly, it would be difficult to define meaningful human control for all permutations of battlefield scenarios. Theoretically, meaningful human control is not and need not be a separate and additional

principle to the three fundamental principles of LOAC. Meaningful human control is, in practical terms, already considered in the current review and use of AWS. The application of meaningful human control will naturally occur as commanders ensure that their plan and their execution of that plan, including the use of AWS, will satisfy the requirements of LOAC. However, the inclusion of guidance for the use of AWS in organisational or national policy would be extremely helpful for commanders at all levels. The nature of this guidance will be determined by the capabilities and limitations of the particular AWS. Indeed, the Senate inquiry was 'not convinced that the use of AWS should be solely governed by the law of armed conflict, international humanitarian law and existing arms control agreements'³⁵ and was of the view that the 'development of an additional protocol to the CCW is likely to be the most appropriate multilateral avenue to regulate the use of AWS, including those on unmanned platforms.'³⁶ Will the Australian government or the Australian Defence Force (ADF) adopt the notion of meaningful human control in any policy or international position it develops on AWS? It should certainly do so as a means of ensuring that commanders comply with LOAC. An international position formalised in a treaty will not only ensure that all other states comply with their LOAC obligations but will also provide a level playing field.

The Senate inquiry

The Senate inquiry proved timely given the increasing use of military unmanned platforms, UAVs by the US, the proliferation of UAV capability and ADF use of unmanned platforms. Indeed, the 2013 Defence White Paper asserted that the 'importance of unmanned air, maritime and land platforms to future ADF operations and the future force needs further investigation.'³⁷ The Australian government is clearly interested in the growth of Defence capabilities in the near future and has committed to return the Defence budget to 2% of Gross Domestic Product within the next decade.³⁸ In a 2014 paper, the Lowy Institute identified that 'defence systems need to be either automated, or autonomous' in order to respond to the increased tempo of conflict.³⁹ The Defence Science and Technology Organisation (DSTO) includes AWS in its DSTO Cyber Science and Technology Plan which incorporates it in its vision for the future. Autonomous systems have been identified as one of five foundational research themes and indicative research activities include 'artificial intelligence, machine learning, automated

reasoning and planning under uncertainty; human machine partnerships'.⁴⁰ Within the Australian Army, Project LAND 400⁴¹ and LAND 3025⁴² may see the development of unmanned ground vehicles which include some form of AWS to promote survivability. It is clear that AWS is a potential capability in which the government is willing to invest.

Part of the Senate inquiry report is dedicated to a discussion of AWS and unmanned platforms and includes a reference to the US Department of Defense policy statement on AWS, including manned and unmanned platforms, and guided munitions.⁴³ Numerous submissions were made, including those made by Defence, the ICRC, and academics. Defence submitted that:

*It is theoretically possible that an unmanned system with sufficient processing power and a library of threat signatures could be armed and programmed to apply lethal force autonomously. The ADF will embrace semi-autonomous systems where that capacity can save lives or reduce exposure ... **but where lethal force is involved a trained operator will remain responsible for the application of that force** [emphasis added].⁴⁴*

The Senate concluded that:

- '... until there is sufficient evidence that AWS are capable of rigid adherence to the law of armed conflict their development and deployment should be appropriately regulated.'⁴⁵
- 'The committee is not convinced that the use of AWS should be solely governed by the law of armed conflict, international humanitarian law and existing arms control agreements.'⁴⁶
- 'The development of an additional protocol to the CCW is likely to be the most appropriate multilateral avenue to regulate the use of AWS, including those on unmanned platforms.'⁴⁷
- 'Australia should form and advocate a considered position which supports the eventual establishment of international regulation on the use of lethal force by AWS.'⁴⁸
- '[having noted the US Department of Defense policy directive on AWS] the committee considers the ADF should review its own policy directives

to assess whether a similar policy directive on AWS, or amendments to existing policies, are required.¹⁴⁹

The inquiry committee made two recommendations in relation to AWS:

Recommendation 7

8.33 The committee recommends that the Australian Government support international efforts to establish a regulatory regime for autonomous weapons systems, including those associated with unmanned platforms.

Recommendation 8

8.34 The committee recommends that following the release of the Defence White Paper 2015 the Australian Defence Force review the adequacy of its existing policies in relation to autonomous weapon systems.⁵⁰

US and UK policy

The US and United Kingdom (UK) are the only states that have developed national policy on AWS, both of which are publicly available.⁵¹ These policies include reference to an element of human control.

The US policy states that '[a]utonomous and semi-autonomous weapon systems shall be designed to allow commanders and operators to exercise appropriate levels of human judgment over the use of force.'⁵² At the CCW informal meeting of experts on AWS in April 2015, the US delegation described the framework of the US policy:

*The framework establishes a deliberative approval process by senior officials, sets out the technical criteria that would need to be satisfied in order to develop autonomous weapon systems, and then assigns responsibility within our Defense Department for overseeing the development of autonomous weapons systems. The Directive imposes additional requirements beyond what is normally required during our weapons acquisition process. These additional requirements are designed to minimise the probability and consequences of failure in autonomous and semi-autonomous weapons systems that could lead to unintended engagements and ensure appropriate levels of human judgment over the use of force.*⁵³

The structure of the US policy injects some form of human judgement at different points throughout the process from weapons acquisition to the use of force. The US appears to adopt the view that these additional measures in its policy on AWS will enable it to comply with LOAC.

The UK considers the existing international law sufficient to regulate the use of AWS. While the US policy permits the autonomous release of weapons, the UK policy states that 'the autonomous release of weapons' will not be permitted and that '... operation of weapon systems will always be under human control'.⁵⁴ The UK's more conservative policy sees it 'committed to using remotely piloted rather than highly automated systems as an absolute guarantee of oversight and authority for weapons release.'⁵⁵

Given the common international law and military interests of the UK, US and Australia, it is likely that any policy or international position adopted by the Australian government will also include an explicit reference to some sort of human control or oversight. However, whether it will permit the autonomous release of weapons may depend on how Australia approaches the moral issue of whether a machine ought to be making decisions to kill a human being.⁵⁶

Conclusion

Notwithstanding the argument that the existing legal framework is sufficient to regulate the use of AWS, the Australian government should actively participate in the discourse relating to AWS. The ADF and Defence industry also need to be engaged in order to shape any potential international regulatory regime that would serve to promote this nation's future interests while ensuring compliance with international law.

Noting that many aspects of the discussions on the use of AWS remain ambiguous and unresolved, and that potential technological advancements will continue to be developed, Australia should be careful not to unintentionally bind itself to limitations on the use of AWS that are overly restrictive and stifle the advancement of technology. On the other hand, Australia may need to balance this consideration against moving too far in the opposite direction, which could see malfunctioning robot armies equipped with the potential to autonomously decide to destroy cities.

THE AUTHOR

Cindy Kua completed a Bachelor of Laws and Bachelor of Commerce at the Australian National University. After graduating in 2006, she practised as a lawyer in both the private and public sectors. In 2012, she was appointed to the Australian Army Legal Corps as a permanent legal officer. Since her appointment, Cindy has been posted to Headquarters 6th Brigade, the Directorate of Military Administrative Law, Headquarters 1st Brigade and Headquarters 2nd Division. She is currently completing a Masters in Military Law.

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Supported by the Army Research Scheme, Dr Charles Miller conducted a review of the significance of cultural sensitivity training. His method of research and the results of his findings are contained within this article. This article will challenge your opinion of the way in which our Army conducts and manages cultural sensitivity training. And challenge is a good thing.

We are all, by virtue of our voluntary service in the Australian Army, students of the profession of arms. This study requires us to value intellectual diversity, challenge conventional thought, and embrace professional and respectful discourse. The more we think about and analyse our profession, the better we become at it.

We do not all have to agree. Both the Evaluation Board of the Australian Army Journal, which reviews these articles, and my staff, have a number of opposing views on this article's content and its reflection on the lived experience of Army values. That said, discussion on sensitive matters, supported by sound research and rigorous analysis, helps position Army to understand difficult problems and deal with them appropriately.

This article is one view, of one cross section of our people, undertaking one component of our preparation for operations. With that in mind, I commend you to read Dr Miller's article, be challenged by the argument presented, learn from it and work together in our efforts to be an inclusive Army.

Angus J Campbell, DSC, AM

Lieutenant General

Chief of Army

ADF views on Islam: does cultural sensitivity training matter?¹

By Charles Miller

Abstract

Since the events of 9/11, the official line of most Western governments has been that the fight against Islamist terrorism is not a fight against Islam itself. Strategically, there are a number of reasons for this — successful intelligence cooperation with Muslim majority governments, civilians in Muslim countries such as Iraq and Afghanistan and in the West itself is seen as crucial for

success in the war. Consequently, states such as Australia have attempted to use 'cultural sensitivity' training to instil a greater understanding of Muslim cultures within military personnel. However, recent incidents have raised questions as to the extent to which the official narrative on Islam is widely shared by the ADF's personnel. Given the disciplinary consequences for openly expressing so-called 'Islamophobic' sentiments, however, answering this question definitively is difficult. In this study, I use a technique designed to elicit frank responses to sensitive questions — the 'list experiment' — to examine ADF views on Islam. I find little evidence that the official 'Islam as a religion of peace' narrative is widely accepted, nor is there evidence that cultural sensitivity training has any effect, although limitations of the study design make it difficult to draw this conclusion for sure.

Introduction

The Australian Defence Force (ADF) has recently faced a number of potential problems with some far right and (allegedly) racist views within its personnel and their involvement with groups promoting these views. An ABC News report, for instance, claimed that postings on a Facebook group for the Royal Australian Regiment referred to Muslims as 'ragheads' and expressed anti-immigrant sentiments.² Similarly, the Royal Australian Navy launched an investigation into allegations that some of its members had joined the far-right Australian Defence League, an anti-Muslim group whose members hinted at committing acts of violence at Australia Day celebrations in Sydney.³

As long as they do not conflict with professional behaviour, the private views of ADF personnel should not be of concern to the ADF or the Australian government. However, there are a number of issues which could arise if anti-Muslim sentiment is widespread within the defence force. First, there is the potential for damage to the image of the service, not only among ethnic minority Australians but also among many Australians who do not consider themselves from a minority background but who do not view racial prejudice kindly. This could in turn affect recruitment to the services and lower public support for the ADF overall. More importantly, if Australia's Muslim community perceives the security services as inherently hostile, this may reduce the flow of intelligence on the activities of Islamic extremist organisations in Australia. Second, while organisations such as Reclaim Australia and the Australian Defence League have not yet spawned any

violent offshoots, this may not always remain the case. The danger that a similarly violent far right group may emerge in Australia and attract trained ADF personnel is a scenario that, while unlikely, nonetheless cannot be wholly ruled out. Third, and probably most important at present, hostility to Muslims in general could hamper the effectiveness of the ADF on deployment in the Greater Middle East in a number of ways. Most obviously, it could lead to ill-treatment of civilians. Many observers, for instance, have blamed abuses by US forces — such as the Abu Ghraib prisoner abuse scandal — on a general desire to seek revenge on Arab and Muslim peoples for the events of 9/11.⁴ Even if anti-Muslim sentiment does not lead directly to abuse, it may complicate attempts to work alongside allied forces in the Greater Middle East and elsewhere — for instance, in training and mentoring roles with the Iraqi and Afghan national armies, or exchanges and joint exercises with Muslim neighbours such as Malaysia or Indonesia.

At present, the principal means employed by the ADF to reduce prejudice against Muslims and outsiders more generally is cultural sensitivity training. This training attempts to familiarise ADF personnel with the main attributes of the culture of the nations to which they are to be deployed. Part of the goal of such training is simply to reduce the possibility of friction due to innocent misunderstandings (for instance, pointing out culturally appropriate gestures and means of address in addition to teaching a few useful phrases in the local language). However, cultural sensitivity training also aims to instil a sense of empathy towards civilian populations and potential allies. This in turn is driven, not by tender-hearted political correctness, but by a hard-headed realisation of the need to develop good relations with civilians and allied personnel so as to acquire the local intelligence crucial for success in counter-insurgency and stabilisation operations.

Gauging the extent of anti-Muslim sentiment in the ADF, and the effectiveness of cultural sensitivity training in combatting it, are both tricky undertakings. Given the ADF's commitment to the principles of religious equality, soldiers may understandably be very reluctant to express similar views in public. This may, in turn, give outside observers the impression that these views are less widely shared than they actually are. Fortunately, researchers in the United States (US) have developed a technique, which I have applied to my research, to persuade individuals to freely express views which may be deemed socially undesirable or for which they could otherwise be punished. This technique — known as a 'list experiment'

— allows researchers to gauge the prevalence of controversial opinions in a population in aggregate terms without attributing these opinions to any one individual in particular. Using this as a means to measure anti-Muslim sentiment in general, I can compare the group of individuals which has received cultural sensitivity training to the group which has not. This research produced a number of conclusions. First, anti-Muslim sentiments are probably quite widespread in the areas of the ADF which I studied, which include some of the most important front-line units in Australia's ongoing commitments in Iraq and Afghanistan. Second, there is no evidence that cultural sensitivity training has done much to change this either way. However, unless and until the army is prepared to sponsor a trial in which individuals are assigned to such training at random, it is difficult to make a clearly causal interpretation of this finding. Put simply, cultural sensitivity training in the ADF does not appear to reduce prejudice towards Muslims, but because this training is also connected to a soldier's unit and combat record, it is difficult to ascertain what is really producing the overall outcome. If the ADF wishes to investigate this issue further, a larger scale, randomised, controlled trial would be necessary. However, an alternative approach could be based more on continuing to reinforce the military discipline which prevents personnel from turning what might be considered unsavoury sentiments into real actions detrimental to the interests of the ADF and Australia. I will explore this possibility more in the conclusion. First, however, I will describe the methods behind my research, explain how the research was conducted and report and interpret my results.

Research

As noted above, the open expression of anti-Muslim sentiment in the ADF can and has led to disciplinary charges and dismissal. To simply administer a survey in which ADF personnel are asked outright whether they are hostile to Islam could lead to a misleadingly low number of positive responses as individuals misrepresent their views to escape censure.

This is a common problem in public opinion research across the world. In the US, for example, it is believed that hostility towards African Americans is still widespread among white southerners, even though many of the latter group are unwilling to express such views openly. In response, the political scientists James Kuklinski, Michael Cobb and Martin Gilens developed the 'list experiment'.⁵ In this scenario, individuals were randomly divided into

two groups (which I will call ‘treatment’ and ‘control’ for simplicity, though strictly speaking there is no ‘treatment’ involved). Both groups were given a list (hence the name) of three items and asked to state ‘how many’ of these items made them angry. The list was as follows:

1. the Federal Government increasing the tax on gasoline
2. professional athletes getting multimillion dollar contracts
3. large corporations polluting the environment

The ‘treatment’ group, however, was given a fourth item — the ‘sensitive’ question — which its members might not have been prepared to answer openly. In Kuklinski, Cobb and Gilens’ study, this item was:

4. a black family moving in next door

The key insight of the list experiment is that, because individuals are only asked ‘how many’ items make them angry, and not which ones, those who would be angered by a black family moving in next door can say so without fear of being discovered or punished. Such a person might answer ‘two’ if assigned to the treatment group (because items 1 and 4 anger them), but if pressed could always claim that they were angered by items 1 and 2. In the aggregate, however, researchers can tell what proportion of the population at hand agreed with the ‘sensitive’ question by simply looking at the difference between the number of items agreed with in the treatment and control group. This is because (assuming the two groups were selected at random) there is no reason to expect that individuals in the treatment group will be more angered by items 1 to 3 than individuals in the control group. Consequently, if there is a significant difference in the number of items which people say anger them in the treatment group, it can only be because of the inclusion of the sensitive item.

To adapt this for the context of this research, an item had to be found which would tap into anti-Muslim sentiment.⁶ Such an item could not constitute straw man views so extreme that they would generate scarcely any responses (for instance, it would presumably be hard to find someone to agree that ‘all Muslims are terrorists’ or ‘I hate all Muslims’) but at the same time it could not tap into elements of anti-Muslim sentiment which are overly abstract or divorced from the operational reality of the ADF (for example ‘Islam is a misogynistic religion’ or ‘Islam is a threat to Western

civilisation’). Similarly, views on Muslim immigration to Australia are irrelevant to the ADF’s operational needs because a soldier could very well be happy to work with Muslims in Afghanistan or Iraq without necessarily being happy to have them come to Australia (this ruled out using ‘a Muslim family moving in next door’ as an item in the list). Instead, I settled on ‘the Muslim religion promotes violence and terrorism’. This is a commonly held view of the anti-Islam right in Australia. It is also more closely related to the ADF’s operational requirements than views on Islam’s relationship to women or gays or whether it poses an abstract threat to Western values or democracy. If one believes that the Muslim religion promotes violence and terrorism, then all Muslims, including nominally friendly forces and civilians, could potentially be viewed as enemies.

The other three items had to be adapted somewhat to the Australian context. Moreover, care had to be taken to avoid the ‘ceiling/floor’ problem which arises in the context of list experiments. The ceiling problem occurs if all three of the non-sensitive items are suggestions which most respondents would agree with or be angered by, meaning that respondents in the treatment group who were prejudiced would give the answer ‘4’, thereby revealing themselves to be prejudiced. The floor problem is the opposite, whereby all three non-sensitive items would be issues few people would agree with, so that individuals giving the answer ‘1’ would similarly be ‘blowing their cover’. The solution to these problems is to choose the three non-sensitive items such that it would be very hard to agree with all three of them, or with none of them. Two of the questions should therefore express what are very nearly opposite opinions on the same subject, while the third should be something to which almost everyone can agree.

I therefore chose the three non-sensitive items as:

1. environmental regulations and taxes like the carbon tax destroy Australian jobs
2. I’m sick of hidden fees and costs when I buy things, especially on the internet
3. mining and logging companies are destroying the Australian environment

Items 1 and 3 are very close to the original American list experiment, and express opposing views on the question of environmental regulation, so that it would be difficult to agree with both simultaneously. Item 2 was designed to avoid the 'floor' problem by finding a statement with which the largest number of Australians could be expected to agree. An online poll of 200,000 respondents cited in Fox News named hidden fees and costs as the issue which most annoys Australians. This was therefore taken to be the 'uncontroversial' option.⁷

In addition to the list, the survey contained a number of questions on each soldier's demographic background and personality characteristics, particularly political opinions. This was designed to allow me to compare background characteristics between treatment and control and those who had received cultural sensitivity training and those who had not (more of this below).

Once the survey wording was agreed, the next step in the research was to identify a military base and group of units to survey. Thanks to the work of Dr Albert Palazzo, Director of Research in Strategic Plans–Army and manager of the Army Research Scheme and of the units involved, I was able to survey four special operations units based at Holsworthy, New South Wales: the 2nd Commando Regiment, the Special Operations Engineer Regiment, the Special Operations Logistics Squadron and the Special Forces Training Centre. These units are by no means a random sample of the army as a whole or of the ADF. Indeed, even within the special forces, there may exist differences in attitudes between this sample and the Special Air Service Regiment, for instance, given the greater emphasis the latter places on reconnaissance and intelligence gathering as opposed to kinetic action.⁸ However, from the perspective of the study, the Holsworthy special forces units are among the most useful to study given that they have borne a heavy share of the fighting in both Iraq and Afghanistan.

The respondents were recruited through flyers distributed by regimental points of contact. The flyers deliberately omitted any reference to Muslims or to cultural sensitivity training, in order to avoid attracting respondents with particularly strong views on the issue either way. The flyers simply referred to 'research into how well your training so far has prepared you to operate in diverse linguistic-cultural environments'. The survey attracted 182 respondents and was conducted at the Holsworthy Other Ranks' Mess

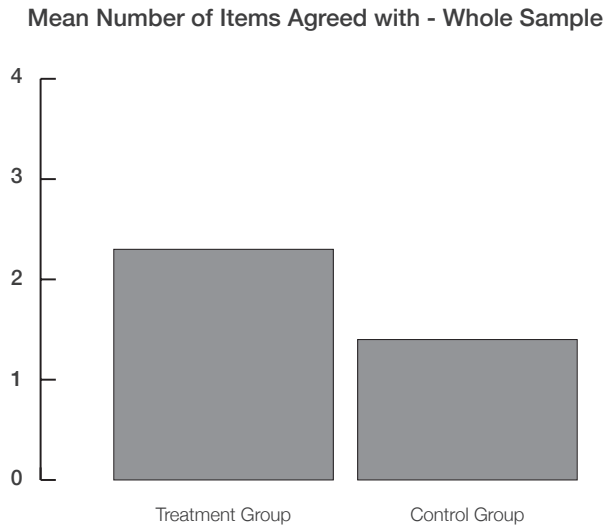
on Tuesday 18 August at 11.00 am. Because it was not known in advance which soldiers would participate in the survey, it was not possible to assign them to treatment and control in advance. Moreover, soldiers choose where to sit in the mess and, plausibly, are more likely to choose to sit with soldiers who are similar to them in terms of many variables which might affect how they would answer the question at hand. Consequently, I randomised assignment to treatment and control by assigning a number in order to the seats in the room, starting with seat number 1 in the top left-hand corner of the mess, going down clockwise to seat 260 in the bottom right-hand corner. I then assigned each seat to receive either the treatment or control form⁹ using a single draw from a Bernoulli distribution (equivalent to tossing a coin) in the statistical program R.¹⁰ The respondents arrived at 11.00 am and had all finished the survey by 11.30 am. The completed forms were then digitised using the open source software Formscanner and analysed statistically using R.¹¹

Results and interpretation

The headline findings are that anti-Muslim sentiment is most likely widespread in the units surveyed. Moreover, in so far as it is possible to ascertain, given the non-random assignment of soldiers to cultural sensitivity training, this training appears to be making little or no difference to this fact.

Recall that the level of agreement in the population under study with the controversial item (in this case 'the Muslim religion promotes violence and terrorism') is simply the difference between the mean number of items agreed with in the treatment and control groups respectively. In the whole sample of 182 respondents, the mean number of items agreed with in the treatment group was 2.26, compared to 1.46 in the control group, a difference which is statistically significant at the .1% level.¹² As Kuklinski et al. pointed out, the estimate for the percentage of respondents who agreed with the sensitive item is the difference between treatment and control multiplied by 100 — which in this case would be 80%.¹³ The mean number of items agreed with in each group is displayed below.

Does cultural sensitivity training make a difference to this? To begin assessing this, I looked at the difference between treatment and control among the soldiers who had and had not received cultural sensitivity

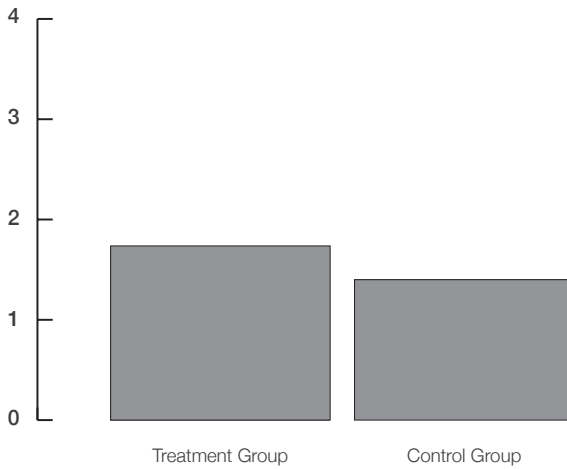


training. Reflecting the fact that the Holsworthy units have seen extensive service overseas, just over 80% of respondents (136 individuals) had received some cultural sensitivity training. This means, for one thing, that more precise estimates can be gained of the differences for this group than for the individuals who have not received cultural sensitivity training.

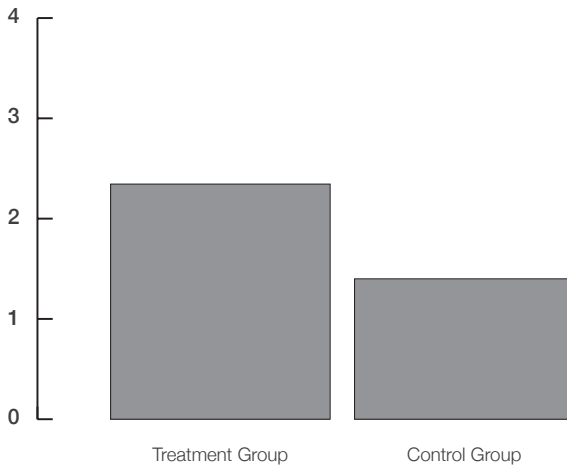
The result? The level of anti-Muslim sentiment among individuals who have received cultural sensitivity training is, if anything, higher than among those who have not. The mean number of items agreed with in the treatment group — among soldiers who have received cultural sensitivity training — is 2.33, while the mean in the corresponding control group is 1.42. The best estimate, therefore, for the proportion of soldiers who have received cultural sensitivity training and who believe that the Muslim religion promotes violence and terrorism is 91%. The corresponding figure for those who have not had cultural sensitivity training is a mere 17%. The graph below reproduces barplots of the mean number of items agreed to for the groups which did and did not receive cultural sensitivity training.

Can it be inferred from this then that cultural sensitivity training *increases* anti-Muslim sentiment? In fact it cannot, for the following reasons. Cultural sensitivity training in the ADF is given to service personnel prior to their deployment overseas. ADF personnel who are not due to deploy overseas are not provided with cultural sensitivity training.¹⁴ Cultural sensitivity training

Mean Number of Items Agreed with - No CS Training



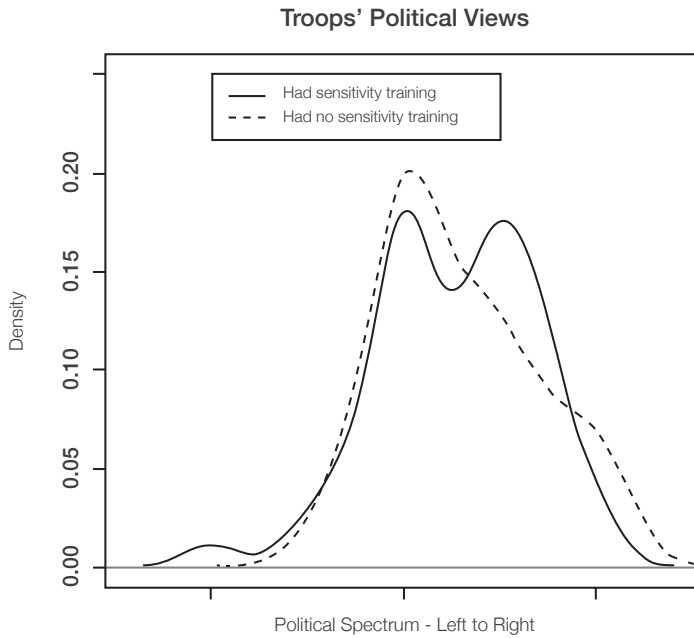
Mean Number of Items Agreed with - CS Training



could reduce anti-Muslim sentiment, all other things being equal, but it could simply be that this effect is being comprehensively drowned out either by the effects of overseas deployment or by whichever factors caused individuals to join units which would be deployed overseas in the first place. For instance, 2 Commando has been the spearhead of Australia's military efforts in the Greater Middle East for some time. It could be that individuals

with particularly strong anti-Muslim views might be more likely to try to join 2 Commando as opposed to other units precisely to take the opportunity to fight there. Alternatively, it could be that, even if individuals start without any anti-Muslim sentiments, the experience of fighting a counter-insurgency war in Iraq or Afghanistan causes them to acquire some. On the other hand, the experience of fighting in these countries could have the opposite effect — fighting alongside trusted local interpreters, Iraqi or Afghan National Army units or building good relations with local communities might serve to reduce anti-Muslim feeling. Without a random experiment in assignment to cultural sensitivity training as described above, it is impossible to rule out these possibilities completely. However, analysis of some of the background data which I gathered on the respondents would seem to weigh against these considerations. I compared the political leanings of individuals who had received cultural sensitivity training to those who had not, based on the Australian Election Study's 0-10 point scale of political ideology (where 10 is the most right wing and 0 the most left wing). As can be seen from the plot below, ADF personnel who have received cultural sensitivity training (i.e. who have deployed overseas) are ideologically indistinguishable from those who have not. Consistent with research on the political positions of military personnel in other countries, both groups are slightly more conservative than the Australian population as a whole — the mean political position of civilian respondents to the Australian Election Study in 2013 was 5.¹⁵, whereas the mean position of respondents to my survey who had received cultural sensitivity training was 6.31 and the mean position of those who had not received cultural sensitivity training was actually somewhat higher at 6.46. There is no evidence then, that more politically conservative soldiers opt for units which are more likely to deploy overseas or that the experience of combat makes soldiers more right wing in general.

Still, the above approach represents a rather crude means to measure the extent to which service overseas affects soldiers' views on Muslims. A soldier's position on the ideological spectrum is a combination of views on a number of different issues, many of which have nothing to do with Muslims or Islam. The evidence presented above should therefore be taken as suggestive rather than conclusive that there are no other relevant differences between soldiers who received cultural sensitivity training and those who did not.



The best way to determine whether this training has an effect on the level of anti-Muslim sentiment would be to select a large sample of ADF personnel at random, then to divide them again at random into two groups, one of which would receive the training and one of which would not. Assuming the two groups to be sufficiently large and to have been split at random, the difference in agreement with the sensitive item between them would provide an accurate estimate of the causal effect of cultural sensitivity training. For operational reasons, however, the army was not prepared to run such a trial. Should the army wish to explore the question in more detail in future, this is the approach I would recommend.

Conclusion

This study has found strong evidence that many members of the ADF's elite units simply do not buy the official line presented by Western leaders from George W. Bush on that 'Islam is a religion of peace'. Anti-Muslim sentiment is strong at least among some of the elements of the ADF at the forefront of deployments to Afghanistan and Iraq. At the same time, it has found no compelling evidence that cultural sensitivity training has even made a dent in

these views. What are the conclusions and recommendations which follow from this?

First, it is possible that cultural sensitivity training does have some effect in reducing anti-Muslim sentiment. For one thing, the training itself is very short — usually lasting less than one day. Perhaps a higher ‘dose’ of the training would produce different results. If this is something which the ADF wishes to investigate, then my next recommendation would be to run a full randomised controlled trial with a random sample of service members and an enhanced program of cultural sensitivity training. However, there is no guarantee that this will produce any effect. Changing soldiers’ world views in the army of a democratic country is no easy task. Historical evidence suggests that attempts by military authorities to change political views are often treated at best with wry contempt on the part of the soldiers. In the British Army of World War II, for instance, the Army Bureau of Current Affairs (ABCA) attempted to motivate soldiers to fight by ‘indoctrinating’ them with ‘democratic values’. However, as the historian Jeremy Crang writes:

A good number of soldiers continued to regard [ABCA political discussion sections] with a marked degree of apathy and cynicism and as little more than an opportunity to have a leisurely cigarette, a crafty nap and – if they were lucky – a bit of fun at the officer’s expense.

As one former soldier claimed:

ABCA and BWP [British Way and Purpose, an ABCA lecture series] were a break in the training routine where soldiers could smoke and dream whilst somebody else stood up and aired extremist political views. If these appeared to embarrass the officer then everybody agreed with them for the hell of it.¹⁵

Polling within the civilian Australian population by the Scanlon Foundation suggests that anti-Muslim feeling is confined to a minority, although this may be an underestimate because of social desirability effects (the poll did not employ a list experiment).¹⁶ However, anti-Muslim sentiment is strongest amongst political conservatives who, as indicated, are more likely to make their way into the ADF. Thus many recruits may be coming into the service with strong prior views on Muslims which may be difficult to change.

A better approach might be to build on the good news emerging from this study. The ADF might be best advised to reinforce troops' professional ethics of respect for foreign civilians and collaborative teamwork with foreign allies even in situations where they have little affinity for these foreign cultures in the abstract. It is not mandatory to like outsiders in order to work with them. As long as soldiers' private views do not conflict with professional behaviour in theatre or at home, then the ADF should not expend serious time changing them. There is a good deal of evidence, again from military history, that soldiers can hold prejudices against outsiders in the abstract but, with the proper professional ethos, work well with them in practice. It is quite likely, for instance, that there was widespread dislike of African Americans among white servicemen in the US Army prior to President Truman's decision to desegregate combat units, yet black and white troops worked well together not long afterwards.¹⁷ Evidence suggests that the same is true of gays in the US military today.¹⁸

In terms of other types of future research the ADF might consider, the list experiment, as demonstrated here, is another useful tool which could be employed if the ADF seeks to estimate the extent, not just of sensitive opinions, but also of various types of illicit behaviour such as drug use, bullying or sexual harassment. List experiments have, for instance, been used to detect the extent of employee theft from organisations and various other types of undesirable behaviour.¹⁹

Finally, if the ADF wishes to determine whether it is spending its dollars on training programs wisely, properly constructed, randomised controlled trials are an indispensable tool. Randomly selecting individuals for participation in a study and randomly assigning them to different types of training is indeed costly in terms of transport, paperwork and soldiers' time, but there is no better way to determine whether current practices are working and delivering value for money. If the program is large enough, the savings realised would far outweigh the costs of the trial. The British government's Behavioural Insights Team, for instance, which runs randomised controlled trials of civilian government policies, is estimated to have saved the taxpayer £20 for every £1 spent on its trials.²⁰ In the absence of a randomised controlled trial, it is impossible to distinguish the effects of any training program from the effects of whatever caused an individual to be selected for the program in the first place. For the ADF's largest and most expensive training programs (provided their effectiveness can be measured outside a

combat situation), evaluation through randomised controlled trials should be standard.

The author

Charles Miller received his PhD in political science from Duke University in 2013 and is currently a lecturer in Strategic and Defence Studies at the Australian National University. His work has been published in outlets such as the *Journal of Peace Research*, the *International Journal of Public Opinion Research* and the *Australian Journal of International Affairs*.

Endnotes

- 1 Thanks to the Army Research Scheme for its funding of this research, to Dr Albert Palazzo of the Army Research Scheme for his help along the way, to the Defence Ethics Panel for their comments and suggestions and to Major C, Warrant Officer L, Captain A, Major G and all the service members who helped me to set up and carry out my research at Holsworthy Barracks.
- 2 See <http://mobile.abc.net.au/news/2012-02-29/racism2c-sexism-rife-on-adf-facebook-group/3860736>
- 3 See <http://www.smh.com.au/national/navy-probe-as-personnel-are-linked-to-racist-australian-defence-league-20140125-31fre.html>
- 4 See http://usatoday30.usatoday.com/news/world/iraq/2004-05-11-911-prison-abuse_x.htm
- 5 J.H. Kuklinski, M.D. Cobb and M. Gilens, 'Racial attitudes and the New South', *Journal of Politics*, Issue 59, No. 2, 1997, pp. 323–49.
- 6 I also rephrased the original survey to ask about 'agreement' with items rather than being 'angered' by them.
- 7 See <http://www.fox.com.au/shows/fifi-and-jules/blogs/2013/10/the-top-20-things-that-annoy-australians/>
- 8 See <http://www.news.com.au/national/anzac-day/nd-commando-regiment-are-the-lesserknown-warriors-waging-war-on-terror/story-fnmewwpe-1227117463193>
- 9 Soldiers were instructed not to move or swap the forms once they were laid down in front of the seat.
- 10 The code and final assignment of seats to treatment and control is available on request.
- 11 See <http://www.formscanner.org/>
- 12 Meaning that the probability that this result came about by chance alone is less than 1/10th of 1%.
- 13 The confidence interval for the estimate ranges from 48% to 100%. This is a large interval because the sample is relatively small.
- 14 Conversation with Dr Palazzo.

- 15 Jeremy A. Crang,. *The British Army and the People's War 1939-1945*, University of Manchester Press, Manchester, 2000.
- 16 See <http://www.smh.com.au/national/one-in-four-australians-feels-negative-about-muslims-poll-shows-20141028-11d4j8.html>
- 17 Charles C. Moskos and Sidley Butler, *All that we can be: Black Leadership and racial integration the Army way*, Basic Books, New York, NY, 1996.
- 18 See http://www.palmcenter.org/publications/dadt/what_does_empirical_research_say_about_impact_openly_gay_service_military
- 19 J.C. Wimbush and D.R. Dalton, 'Base rate for employee theft: Convergence of multiple methods', *Journal of Applied Psychology*, Issue 82, No. 5, 1997, pp. 756–63.
- 20 See <http://www.news.com.au/world/the-nudge-saving-uk-taxpayers-millions/story-fndir2ev-1226568163694>

Learning the Hard Way: Developing Australian Infantry Battalion Commanders during the First World War

By William Westerman

Abstract

The history of the Australian Army tends to neglect the development of 'officership', particularly during both world wars. The development of officers in the Australian Imperial Force (AIF), for instance, presents an excellent opportunity to examine the evolution of the professional Australian combat officer, particularly in terms of battalion command, and to explore the role of structured training and education in the development of command. This progressed in three broad stages. The first generation comprised the older officers of the Australia militia who provided a firm foundation for AIF infantry battalions but lacked the physical and mental toughness to cope with the rigours of combat. The second generation consisted of those junior officers who assumed battalion commands once the first generation had moved on. Although there were many excellent officers in this generation, their rise to command owed much to their natural ability over professional development. The third generation of Australian commanding officers were those who had completed formal command training and demonstrated their competence while serving as battalion second-in-commands. These men were some of the most professionally capable officers Australia had produced to that

point, and were among the most proficient unit commanders in the world in 1918, a significant achievement for 'citizen soldiers'. This article describes their remarkable development.

Introduction

Henry Crowther was in many ways a typical AIF officer. Born in the late Victorian era into a British family in Jamaica, he was raised in Australia, receiving an above average education for the standards of the time and partaking in many of the activities that befitted a young gentleman in the colonies: swimming, football and shooting.¹ His university education enabled him to enter the workforce as a teacher, also providing him the opportunity to join the Melbourne University Rifles. While teaching he served as a lieutenant in the senior cadets and in March 1915 he enlisted in the AIF.² By the end of the First World War Crowther was the Commanding Officer (CO) of the 14th Australian Infantry Battalion.

Crowther's military service is typical of a citizen soldier. While he had an interest in soldiering it was not his vocation and he never devoted his life to it, neither before nor after the war. Yet to claim that by the end of the war Crowther was not a professional officer is disingenuous. He had been on active service since 1915 and had commanded an infantry battalion within a formation — the Australian Corps — which, by late 1918, was at the peak of its powers. He passed through formal command training, was awarded the DSO and mentioned in despatches four times. Australia had never before had infantry commanders as experienced and as proficient. What then is the place of these citizen officers in the history of the Australian Army? In 1921, Lieutenant General Sir Harry Chauvel, Inspector-General of the Australian Military Forces (AMF), argued: 'Because of the fact that our citizen army did so extraordinarily well during the late war there is a tendency on the part of the Australian public to discount the value of the professional soldier and to doubt whether he is necessary at all.'³ Yet, to what degree were Australian officers in 1918 still 'citizen' soldiers?

To answer this question it is important to understand what a 'professional' soldier is. Many definitions exist, and this article will take a relatively simple one: a vocational expertise in the management of violence, sanctioned by the state, developed through formal education and sustained through a high standard established and managed by the profession itself.⁴ While

there is some debate within the literature as to whether enlisted men can be considered professionals, this article will ignore that debate and focus specifically on the professionalisation of the officer corps.⁵

Even without a technical definition there is still an obvious difference between a citizen soldier and a professional. For the former, soldiering is usually a pastime, an activity engaged around the structure of his full-time occupation. No matter how enthusiastic he is, the citizen soldier can never achieve the same level of expertise as the professional soldier. Although the pre-war Australian Army's professional soldiers were few in number and many lacked active service experience, they had the benefit of more extensive training and more time and resources available to enhance their standard of proficiency in line with what was expected of their profession.

Even if citizen officers such as Crowther never made soldiering their vocation and thus never committed to 'officership' as a profession, during the war, many attained a level of expertise in the management of violence which was arguably higher than those truly professional Australian officers of 1914. To turn citizen soldiers into near professional officers was no small accomplishment, particularly in a military that lacked a lineage stretching back centuries and without a solid professional ethos.

Assessing any Australian officer corps is difficult, as Australian military history has been generally deficient in assessing the effectiveness of junior and mid-level officers, neither providing the tools for such work nor generally displaying the inclination to do so if these were available. Indeed the history of the AIF lacks a serious study of junior officers, officer-man relations, or the phenomenon of promotion from the ranks. Interestingly, the current Australian Army perhaps also places less emphasis on the development of 'officership' than it should. Captain James Brown (ret'd) argues that the modern Australian Army, like broader society, does 'not appear to place a high premium on "officership".'⁶

However, it must be acknowledged that the development of officers within an army is critically important. This is no less true now than it was 100 years ago. Although the composition and character of the AIF differs significantly from the current Australian Army, the question of how to best prepare officers to command in combat remains pertinent. This article will take one level of 'officership' — battalion command — and examine how it developed from 1914 to 1918, to the point at which those who held AIF battalion

commands cannot be reasonably considered citizen soldiers, and were instead professional men of war. This discussion will explore the weaknesses in officer development in the pre-war army, and the structures and systems implemented during the war that enabled future battalion commanders to be trained and educated for the daunting task of unit command.

First generation

The development of professional Australian officers did not occur overnight, but was the result of a long evolutionary process within the AIF. To tell this story, the development of Australian COs will be examined in three broad stages, with caveats of course that these are generalisations and simplifications, but that they do, to a certain degree, help explain the developmental process.

The first stage of the AIF's battalion command development came with the raising of the AIF itself, with officers required to fill newly created battalion commands. Given that the Australian military had a very limited number of well qualified and combat experienced regimental officers, the General Officer Commanding the AIF, Major General William Bridges, and his brigade commanders were forced to select from a pool of militia COs, retired British regulars and other assorted soldiers.

The men who comprised the first generation of AIF COs can easily be described as 'amateur' soldiers. They were older men, usually of high standing within society, serving as COs in the part-time Citizen Forces (also known as the militia), who made their living in the professional, commercial or public spheres. Although they were keen soldiers, few had active service experience and there was little professional development for militia officers, a significant proportion of whom had to devote most of their very limited time to training their men.

An amateur ethos pervaded the Citizen Forces at that time, resulting in amateur capabilities. This was typified in the development of officers. Professional command training was negligible and the manner in which

officers were selected for promotion left a great deal to be desired. One Australian permanent soldier observed:

*... the promotion of a young officer is not dependent on the zeal and ability which he shows in regimental work, but upon his success in examination. Yet, it will generally be admitted that the greater part of the subjects studied for examination [are] unassimilated and quickly forgotten, and have little influence on the officer's mental equipment and habit of thought.*⁷

In the pre-war army, officers seeking promotion from major to lieutenant colonel were required to pass 'Tactical Fitness for Command', a two-part examination, half theoretical and half practical. These exams were notoriously inadequate, particularly those designed for the militia officers. In 1912 *The Advertiser* in Adelaide commented that 'not many years ago ... three hours, and sometimes less, was considered sufficient for an examination for lieutenant-colonel.'⁸ Most officers also lacked relevant active service experience. Of the 44 AIF COs first appointed in Australia, only 11 had seen active service, most in South Africa. Much of this experience was gained serving in the light horse in a completely different operational environment to that they would experience in the First World War, and with different doctrine, weapons and equipment. Crucially, only three of these officers had commanded an equivalent battalion-sized unit.

Once in action, the deficiencies of this generation were obvious. The average age of the COs in the 1st Division was 48, which proved too old to lead battalions in combat. One CO even found the journey from Australia too difficult, forced to relinquish his command in Egypt due to his 'weak physical condition' and 'lethargic demeanour'.⁹ The experience of combat only hastened the demise of many of these officers. The 53-year-old William Bolton, for instance, landed with the 8th Battalion and led them at the Battle of Krithia on 8 May at Cape Helles. Physically and mentally shaken by the battle, he wrote,

*... the strenuous work of the last three weeks has been too much for [a] man of my years and I am broken down in body and mind: the horrors and strain ... were more than I could stand, my nerve is completely gone, I have no confidence in myself and I shall never be able to take troops into action again.*¹⁰

CO casualties were also a product of a lead-from-the-front style of command that was appropriate for the late Victorian and Edwardian era, but out of step with the reality of the First World War. At Lone Pine, the 2nd, 3rd and 4th battalions made the initial assault on 6 August. Of their three COs, two were killed during the battle and one was so badly wounded that he only returned in December.¹¹ This first generation of COs generally commanded through inspirational personal leadership, often placing themselves in the thick of the fighting to inspire their men and often paying the price for such reckless bravery.

Fundamentally, the first generation of AIF COs was not battle-hardened, and when faced with the rigours of combat, few were able to cope. All three divisions raised in Australia lost most of their initial COs; only three of the 44 went on to command brigades. With most aged in their 40s or older, they were more susceptible to illness than younger officers or less likely to recover from wounds. Half the cohort was removed for medical reasons, a phenomenon that was not repeated at any other stage of the AIF's history. Field Marshal Archibald Wavell believed that '[t]he first essential of a general ... [is] the quality of robustness, the ability to stand the shocks of war'.¹² This is equally if not more applicable to a battalion commander, who is often much closer to the face of battle.

That most of these men were commanding militia battalions that would have been used for the land defence of Australia in the event of invasion is an indictment both of the way the pre-war army had invested in their command development and its failure to remove men who were well past their prime as battlefield leaders. This is not so much a criticism of the officers themselves — men who volunteered for active service and, in most cases, led their commands bravely and enthusiastically — but the military and defence organisation that was unable to sufficiently resource and manage officers holding some of its most crucial appointments.

Despite their obvious drawbacks, members of the first generation did have one great strength — they knew how to conduct the type of training the AIF needed to raise its infantry battalions. The observation made of Harold 'Pompey' Elliott, one of the few successful first generation COs, was that 'he knows how to make soldiers'.¹³ For his part, the 12th Battalion historian argued that the unit's first CO, Lancelot Clarke, had laid a 'splendid foundation' for the battalion's future work.¹⁴

Second generation

The tenure of the first generation of the AIF's battalion commanders was short. When their second-in-commands (if they had survived) began to take over, they usually did not alter the nature of the CO cohort as they shared many of the same faults as their COs. South African veteran Robert Gartside, William Bolton's second-in-command, was the same age as him — 52. The 10th Battalion's second-in-command, Frederick Hurcombe, had also fought in South Africa. He suffered a nervous breakdown in July 1915 and was later evacuated from the peninsula with dysentery.¹⁵ Robert Owen's second-in-command, Alfred Bennett, had even served with his CO in the Sudan in 1885.¹⁶

The second generation of Australian COs predominantly comprised the junior officers from the militia who had been given commissions in the AIF, who had survived the Gallipoli campaign and had begun to assume the commands being left vacant by the first generation of COs. Typically, they had begun the war as majors or captains, and they certainly proved more durable than their predecessors. Among this group were some of the most highly decorated and respected unit commanders of the war.

The strength of this generation was that battlefield attrition had elevated them to commands, and their appointments were not determined by peacetime conditions but by the natural selection of active service. Thus men with natural ability, technical skill and luck were promoted very quickly. For some this was a very sudden rise. Owen Howell-Price landed at Gallipoli as a lieutenant in the 3rd Battalion and, by 6 September, he had assumed temporary command of the battalion.¹⁷ When he became the substantive CO in 1916 he was only 26 years old.

It is a remarkable feature of the second generation of COs that so many largely untried officers were to prove exceptional COs. Future lieutenant generals Iven Mackay, Gordon Bennett, Carl Jess, major generals James Cannan, Edmund Drake-Brockman, James Durrant and brigadier generals Ray Leane, James 'Cast Iron Jimmy' Heane, Cam Stewart, Cam Robertson and Sydney Herring were all junior battalion officers at the start of the war who rose to battalion commands during or immediately after the Gallipoli campaign and would go on to serve as brigadiers after successful periods in command of their battalions. Another second generation CO was Leslie Morshead, who began the war as a lieutenant in the 2nd Battalion, was

wounded at Gallipoli and returned to Australia to be appointed CO of the newly formed 33rd Australian Infantry Battalion, which he commanded for the rest of the war. Morshead later held brigade, divisional and corps commands in the Second World War, including commanding the 9th Australian Division during the siege of Tobruk in 1941.

The second generation successfully bore the burden of battalion command for the middle years of the war. Many excellent officers were given their chance to command far earlier than they probably expected, and those with ability made the most of it. This generation left a significant legacy; almost every brigadier in the Australian Corps during the Hundred Days campaign in 1918 had come from this second generation of battalion commanders. Most second generation COs who survived the war continued to serve in the AMF during the interwar years, bringing valuable experience to the militia, and many served during the Second World War as well.

However, they were not all brilliant soldiers and commanders — there were a number of poor quality officers who ascended quickly to battalion commands by virtue of necessity, and were promoted beyond the level of their competence. Miles Beevor, senior major of the 10th Battalion, became temporary CO in October 1915. By the start of 1916 he was despised by his battalion. He displayed complete indifference to the welfare of his men and an inability to develop a working relationship with his officers. By 1916 his adjutant wrote: 'I am about fed up with the doddering old fool ... so are the men and most of the officers. They have no respect whatever for him.'¹⁸ Beevor was transferred to command the 52nd Battalion in March 1916 but fared little better, and when he was wounded on the Somme in September he never returned. Beevor betrays the weakness of the second generation of battalion commanders, an unevenness that was largely due to the nature of the pre-war officer corps on which the AIF was still dependent for its officers. Beevor had been a major in the militia and his advancement in the Citizen Forces had seen him appointed to command an infantry battalion in active service when there was no evidence that he was trained or capable of doing so.

The fact that many members of this generation proved to be effective COs was not attributable to a developmental pathway, but rather the fact that the first brigadiers and battalion commanders had sufficient local knowledge to select good junior officers for their battalions. These men had largely

lived up to their potential despite never having received formal training nor gained experience commanding a unit the size of a battalion on active service. However successful they were, the manner in which the second generation was developed was not a blueprint for future success, relying on natural talent over a systematic and structured approach to training and education. In this respect they were no better prepared than the first generation to assume battalion commands, but were simply younger and more robust, relying largely on raw talent and ability rather than expertise inculcated intentionally via formal learning processes. What the AIF lacked was a developmental process to ensure that all COs were at the appropriate standard. This would be a feature of the third generation.

Third generation

The third generation of COs did not generally comprise the big personalities of the AIF, yet they were the most competent and most professional. Looking at the second generation of COs, what was clear is that a system was needed to ensure that future battalion commanders were suitable *before* they took command. Commanding a battalion was unlike commanding a lower sub-unit; it was far larger and more complex, and it was preferable to have men already qualified to take over these commands once they became vacant, rather than having them learn 'on the job'. This was how the peacetime army had theoretically operated, ensuring officers were qualified for promotion before they were promoted. Yet the exigencies of war, as well as the high officer casualty rate, meant that officers were being promoted so quickly that it was impossible to ensure that the right men were being placed in the right commands.

One factor that changed this process emerged from the first day of the Battle of the Somme. In some British battalions the CO, second-in-command and adjutant were all killed or wounded in a matter of minutes — figuratively decapitating the unit. After this, army policy forbade a CO and second-in-command to be in the line together, much less both participate in an operation. Theoretically, this meant that a battalion second-in-command would assume the CO's front-line role 50% of the time, gaining valuable experience.

Although the original intention of the directive was to maintain a command nucleus if a battalion was decimated, what it did was to considerably

enhance the command development process, allowing superior officers to gauge how well a second-in-command performed in a battalion commander's role in battlefield conditions. This enabled brigadiers and divisional commanders to be gatekeepers, determining which officers became COs by ruthlessly removing ineffective second-in-commands, rather than being forced by necessity to take any second-in-command regardless of his suitability for higher command. In the 32nd Battalion, for example, the two most senior majors were removed in late 1917 and early 1918 because neither was deemed sufficiently competent and both blocked the progress of the third major, Blair Wark, who the CO, Charles Davies, declared was 'fitted to command a Batt[alio]n at any time'.¹⁹

Davies' judgement of Wark was vindicated in late September 1918 when, while temporarily commanding the battalion, he successfully led his men in breaching the Hindenburg Line, an action for which Wark was awarded the Victoria Cross, the only Australian officer in the war to be so decorated while in command of an infantry battalion.²⁰ In this instance, as in many more, the decision to remove senior but less effective officers was necessary to ensure that the right man was given the job.

More importantly, the third generation of Australian COs had completed a formal training process for battalion command. By late 1916 the British Army had established a specific school in the United Kingdom (UK) for the training of battalion commanders. Douglas Haig had acted on concerns raised by some of his senior commanders towards the end of the Battle of the Somme that many majors and lieutenant colonels in infantry battalions knew little of how to command infantry battalions — thus the Senior Officers' School was born.²¹

The school took selected majors and sometimes captains from various battalions in the wider British Army and put them through a three-month course at Aldershot, the 'home of the British Army'. From the very start, Australian officers were part of this process. Between October 1916 and March 1919 nine courses were conducted, teaching officers various aspects of command. In this sense it was a true 'command' school, not just providing COs an opportunity to learn the latest tactical doctrinal or technological changes, but also giving them practical lessons on battalion administration and theoretical guidance for leadership development.²²

As the third generation of Australian COs began to assume commands, the impact of this school became evident. Of the 29 COs appointed in 1918,²² of them had passed through a senior officers' course at Aldershot. John Newman, CO of the 11th Battalion in 1918, considered his time at the school among his most interesting experiences of the war.²³ Similarly, Rupert Sadler of the 17th Battalion told the commandant that he had 'profited very greatly' from attending the course.²⁴

There were other strengths to the third generation too. They were the beneficiaries of the AIF's increasing institutional memory, having been developed since its formation and certainly since it went into action at Gallipoli in April 1915. The longevity of officers remaining with the AIF meant that they accumulated a significant amount of knowledge, usually as they served as company commanders and second-in-commands, and some as adjutants or platoon commanders as well. At the Armistice, every CO in the 1st Australian Division had landed at Gallipoli on 25 April 1915 as a junior officer or NCO. Don Moore, commanding the 3rd Battalion in 1918, had been a platoon commander at the landing and had served as both a company and battalion commander by the end of the war.²⁵

With the development of a growing pool of competent and educated second-in-commands, senior commanders began to feel more confident about moving the poorer second generation COs sideways out of combat commands. This was particularly noticeable in 1917. A year earlier, in 1916, the most common cause for the removal of a CO was medical. By 1917, the single most common reason was transfer to a line of communications unit, either in the rear areas of France or in the UK (see Table 1). As the war progressed, brigadiers or divisional commanders who knew of a second-in-command who was a potential CO would be less reluctant to hold on to a mediocre CO.

Thus, by 1918 the Australian Corps had a refined CO cohort that was very experienced and increasingly formally trained, moving COs towards a professional ethos in line with their evident expertise. However, the fact that there were many successful battalion commanders who came through the vetting process of the Senior Officers' School and extended periods as battalion second-in-commands should not imply that the development of

Table 1: Reason for CO removal, by year

	#	% Annual
1914	1	
1915	19	
Medical	12	63%
Killed in action	4	21%
Transferred	2	10%
Returned to Australia	1	5%
1916	50	
Medical	18	36%
Killed in Action / Died of Wounds	2	4%
Promoted to Brigadier	10	20%
Transferred	12	24%
Resigned commission/Returned to Australia	8	16%
1917	47	
Medical	13	28%
Killed in Action / Died of Wounds	4	9%
Promoted to Brigadier	2	4%
Transferred	25	52%
Relinquished command/Returned to Australia	3	6%
1918	37	
Medical	7	19%
Killed in action	6	16%
Promoted to brigadier	6	16%
Transferred	16	44%
Returned to Australia	2	5%
Total	154	

COs in the third stage was perfect or that a pure meritocracy developed in the AIF, as there was still room for patronage or for senior officers to make mistakes.

Nor did the Senior Officers' School always vet potential COs accurately. Major Montague Brearley, 48th Battalion, attended the sixth course from January to March 1918. His syndicate commander declared him to be a 'capable' officer and the commandant concluded that he was a 'good sound regimental Officer who inspires confidence'.²⁶ In June 1918, when Brearley became the battalion second-in-command under new CO Stan Perry, he was criticised heavily for being a 'hindrance' to his new CO and for failing 'to inspire the confidence of his subordinates' during temporary command of the 48th Battalion.²⁷ Once he had been passed over for command he developed a 'disinterested attitude' towards the war and was practically untenable as Perry's second-in-command. As a result, he was recommended for return to Australia.²⁸

Brearley's case was in the minority, however. The general competence of most COs was a testament to the way the AIF was able to mature and produce an effective outcome if given sufficient time to succeed and the right will from those in senior positions. Charles Johnston, CO 15th Battalion in late 1918, believed that, by the Hundred Days, the battlefield success of the Australian Corps demonstrated that the AIF's officers and men had become 'veterans in the art of war'.²⁹ These robust and capable COs were at the forefront of a modern, sophisticated army, and not to describe them as professional officers is to devalue the extraordinary level of expertise and commitment required to command effectively on a battlefield dominated by the most powerful and destructive weapons systems the world had ever seen.

Conclusion

The story of Australian battalion command in the First World War is that of a cohort of citizen soldiers developing towards professionalism and creating the first professional Australian combat commanders. Although men like Henry Crowther were not regular soldiers, by the end of the war their level of expertise meant that the militia officers who had served in the AIF since August 1914 and who comprised the third generation were now among the most experienced and highly trained unit commanders in the world. As

Garth Pratten observed of the Australian battalion commanders of 1945, this professionalism was exhibited in ethos, structure and proficiency, even if, at its heart, the officer corps of the AIF still comprised citizen soldiers.³⁰

It must be emphasised, however, that the evolution of Australian battalion command in the First World War is not a prescription for how to train and educate unit level commanders in future conflicts given that the conditions under which the AIF was raised and operated are unlikely to be reproduced. However it is a reflection of how and why the AIF (and the wider British Army) developed leaders with professional expertise in a short period of time and the benefits of doing so. The need to move the right people into commands (or at least remove the wrong people at junior levels) and then provide them the necessary education and training to succeed in a difficult command are themes that still resonate today.

For the AIF, the adoption of a systematic approach to command training, including a heavy investment in the senior officers' course, proved much more effective than simply placing talented junior officers in commands and hoping for the best. To assume that an officer, however skilled, could have commanded an infantry battalion in the complex warfare of 1918, integrating his unit into the wider British Army weapons system without extensive experience, technical training and formal education, is to fall into the same trap of assuming that every Australian is a 'natural soldier' and thus requires no preparation before engaging with the enemy. The need to institutionalise command training for officers aspiring to lead a battalion was not lost on the British Army, which not only established the Senior Officers' School on a permanent footing at Sheerness, Kent, in 1920/21, but also created a 'sister' school at Belgaum, India.³¹

Unfortunately for the Australian Army, with the Armistice in November 1918 and the final disbanding of the AIF in 1921, the collective knowledge and expertise of Australian officers who had learnt the difficult task of commanding an infantry battalion on active service was largely allowed to dissipate with few serious attempts to retain this knowledge for future reference. Many AIF COs returned to Australia and were given militia battalions to command; however, as most were not vocational soldiers, their knowledge was not permanently captured by the AMF which, in any event, did not have regular infantry battalions for these men to command. As such, the army lost the opportunity to institutionalise the collective experiences

of these very accomplished soldiers. This is what happened to Henry Crowther, who commanded the Citizen Forces 14th Battalion from 1920 to 1924 before being placed on the Reserve of Officers in 1929.³² However, he returned during the Second World War and served as Assistant Provost Marshal, Southern Command.³³

The rise of the army's professionalised combat commanders was premature, rather than the beginning of a trend. The tragedy is that the gains made during the First World War in battalion command were not used as the foundation for the future. Indeed, Jeffrey Grey argues that the 'gains which the Australian Army made during World War I were largely undone during the twenty years which followed the defeat of Germany in 1918.'³⁴ The myth that Australians were 'natural soldiers' did nothing to reinforce the notion that the knowledge gained during the war needed to be institutionalised so that the processes and lessons did not have to be reinvented when they were needed again — a cautionary tale for any army emerging from a period of prolonged deployment heading into less active times. Without proper attention the quality of battalion commands fell throughout the interwar years.³⁵ It was not until the creation of a regular standing army in 1947 that the opportunity returned for professional regimental officers to be developed, and the profession of arms in Australia to further mature.³⁶ The false dawn of the First World War demonstrated the enormous leadership potential resident in the AIF as a professional Australian officer corps emerged for the first time.

The author

Dr William Westerman graduated from the University of Melbourne in 2009, completing a Bachelor of Arts with first class honours in history. In 2014 he attained a PhD at the University of New South Wales in Canberra, researching Australian battalion commanders in the First World War. His thesis will be published by Cambridge University Press in late 2016. He is currently an Australian National University Teaching Fellow with the Military and Defence Studies Program, Australian Command and Staff College, Canberra.

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Enabling Army Innovation

By Brigadier Chris Field

Abstract

The Defence White Paper 2016 articulated a specific requirement for the Australian Army to respond to the challenge of innovation. This article constitutes a response to that requirement, initially defining innovation and then summarising the 10 characteristics that are central to innovation. Employing these characteristics, the article moves to examine two concepts that would enable Australian Army innovation: improving collaboration and realising people's potential.

Importantly, and aligned to the requirements of the White Paper, this article seeks to initiate thinking on how the Australian Army can 'adapt to change, to innovate and to integrate reform into its core business processes'. This is a crucial debate for the army as it moves into the twenty-first century.

Enabling army innovation — improving collaboration and realising potential

Innovation emerges as a major concept in the statements and assertions of the Defence White Paper 2016. Indeed, it is so important that innovation is mentioned on no fewer than 36 occasions. In its various guises, innovation appears as a tool of defence industry; the research community; Defence

Science and Technology Group; United States (US) Defense Innovation Initiative; innovative manufacturing in the region; the 2012 Coles Review, Collins Class Submarine, innovative transformation plan; Hawkei Protected Mobility Vehicles innovative design; Defence Innovation Hub; improved technology to enhance flexibility and innovation in training, education, and skilling; and an innovative ‘High Res’ smart phone app that will help serving and ex-serving Australian Defence Force (ADF) members manage stress and building their psychological resilience.¹

In the midst of this plethora of innovation cameos, the White Paper articulates an innovation challenge for the ADF, including the Australian Army:

The more complex future strategic environment Australia faces will place greater demands on Defence, particularly its ability to adapt to change, to innovate and to integrate reform into its core business processes.²

This article aims to respond to the White Paper challenge and suggest a way in which the army can fulfil the exacting requirements articulated in its pages. The logical starting point for this discussion is a definition for the term ‘innovation’ which can assume various meanings in a broad span of contexts. The discussion will then extract 10 characteristics from that definition, using these as the basis for two concepts to enable Australian Army innovation: improving collaboration and realising people’s potential.

Importantly, and aligned to the requirements of the White Paper, this article seeks to initiate debate over how the Australian Army can ‘adapt to change, to innovate and to integrate reform into its core business processes.’³

Innovation defined

According to *The Macquarie Dictionary*, innovation is ‘something new or different introduced; the act of introducing new things or methods.’⁴ This simple and concise definition will form the basis for the ensuing discussion.

Preceding the release of the 2016 White Paper by two years, the Australian Army’s capstone doctrine, *Land Warfare Doctrine 1, The Fundamentals of Land Power* (LWD 1), emphasises the importance of innovation in achieving the army’s mission, which it defines as: ‘to win the land battle in order to

defeat our enemies and safeguard the interests of the nation and the lives of our people'.⁵ In particular, LWD 1 states:

*The intellectual component of fighting power ... is supported by an organisational climate that enables creativity and innovation, analytical excellence and continuous learning.*⁶

LWD 1 also notes that successful armies employ innovation to 'provide the versatility inherent in land power' which builds an army's 'capacity and willingness to ... change to solve a new complex problem or execute an unexpected mission'.⁷

Innovation is the process of designing and implementing new methods to lead an organisation and produce better results.⁸ Innovation involves the generation, adoption, implementation and incorporation of new ideas and practices.⁹

In the 1990s, Oldham and Cummings, and Scott and Bruce concluded that creativity and innovation are important to the long-term survival of organisations.¹⁰ In examining organisational disruption caused by innovation, Ehigie and McAndrew assert:

*In the innovation change process, creativity leads to invention, and the first introduction or implementation of an invention is innovation, which could lead to adoption. Adoption results from the diffusion process.*¹¹

Professor Roger Clarke describes the diffusion process as the spread of a new idea from its source of invention to its ultimate users or adopters.¹² Individuals who adopt an innovation evolve their thinking as they increasingly understand the opportunities presented by change. The innovation change process is incomplete if use is limited only to the innovator and is not adopted by others. Limited adoption means an innovation may not lead to the broad transformation of an organisation or system.¹³

Gladwell explains that successful innovation requires 'divergent thinkers' who effectively communicate the requirement for change.¹⁴ Psychologist Jordan Peterson notes that 'divergent thinkers' are uncommon in society.¹⁵ Instead societies, particularly within traditional organisations such as the century-old Australian Army, seek convergent thinking. Divergent thinkers challenge orthodoxy. Through leadership, divergent thinkers create an environment conducive to the adoption of new ideas.

Emphasising divergent thinking, creativity and innovation, Williamson Murray and MacGregor Knox observe that:

The military institutions that successfully innovated between 1919 and 1940 without exception examined recent military events in careful, thorough, and realistic fashion. Analysis of the past was the basis of successful innovation. The key technique of innovation was open-ended experiments and exercises that tested systems to breakdown rather than aiming at the validation of hopes or theories.

Simple honesty and the free flow of ideas between superiors and subordinates—key components of all successful military cultures—were centrally important to the ability to learn from experience. And the overriding purpose of experiments and exercises was to improve the effectiveness of units and of the service as a whole, rather than singling out commanders who had allegedly failed.¹⁶

Leaders foster divergent thinking through consistently challenging their own and others' preconceptions. They excel when readily imagining alternative futures and developing 'non-linear' thinking where many possible solutions are explored. Leaders challenge assumptions in a broad range of areas from education, training and doctrine, to systems, processes and planning.¹⁷

Theodore Levitt warns that 'what is often lacking is not creativity in the idea-creating sense but innovation in the action-producing sense, i.e., putting ideas to work.'¹⁸ Levitt asserts that, when a person suggests an idea:

... the responsible procedure is to include at least some minimal indication of what it involves in terms of costs, risks, personnel, time, and perhaps even specific people who ought to carry it through. That is responsible behaviour, because it makes it easier for leaders to evaluate the idea and because it raises fewer problems. That is the way creative thinking will more likely be converted into innovation.¹⁹

Echoing Levitt's requirement for organisations to transition from 'idea-creating' to 'action-producing' entities, the Australian Army employs eight fundamental inputs to capability — personnel, organisation, collective training, major systems, supplies, facilities, support, command and management — for project consideration, risk analysis and development.²⁰ Through systems such as the fundamental inputs to capability, leaders 'view a problem from multiple perspectives, frame that problem within a workable

context, and develop either conventional or unique or unorthodox solutions as required.²¹

In psychological terms, leaders who frequently break the 'frame' of the current view or reference often develop profound intuitive insights.²² Leaders who enable innovation effectively identify and define the end state or objective of a situation or problem. Once the end state is defined, innovative leaders guide their team along paths to develop solutions.

Successful innovation requires some, and preferably all, of the following 10 characteristics:

1. divergent thinking
2. acceptance of failure
3. challenging assumptions in education, training, doctrine, systems, processes and planning
4. viewing a problem from multiple perspectives
5. enabling the diffusion of ideas
6. continuous learning through the generation, adoption, implementation and incorporation of new ideas and practices
7. testing systems to breakdown through open-ended experiments and exercises
8. simple honesty and the free flow of ideas between superiors and subordinates
9. careful, thorough and realistic self-reflection and analysis
10. framing innovation in the action-producing sense (i.e., putting ideas to work)

With innovation defined and then summarised in these 10 characteristics, this article now examines two ideas for Australian Army innovation: improving collaboration and realising people's potential. The discussion focuses on how the Australian Army can 'adapt to change, to innovate and to integrate reform into its core business processes.'²³

Enabling army innovation

Improving collaboration

Collaborative, broad-thinking leaders create environments conducive to innovation. These leaders generate enthusiasm for new ideas, shared understanding and efficient resource use. Collaborative leaders create determined, cooperative and innovative teams. These leaders encourage divergent thinking, challenge assumptions and enable continuous learning.

By contrast, competition and self-interest generates an environment of uncertainty, poor communication and resource wastage. Competition at the expense of collaboration creates an unhappy and dysfunctional organisation. Innovation is difficult in this environment.

Collaborative leaders enable innovation through ensuring their availability to their people, peers, staff and other leaders. Collaborative and available leaders maintain control of their emotions, encouraging people to seek their counsel and support. Availability is a discipline and must be planned and practised. These leaders demonstrate an unhurried yet professional persona. Available leaders create time for themselves and others to listen, think and understand. These leaders view problems from multiple perspectives and encourage the diffusion of ideas.

Available leaders invite innovation through enabling people to express their ideas and opinions. These leaders do not command from their desks or tied to their headquarters' plasma computer screens. Following the 2006 Second Lebanon War, Major General (ret'd) Matan Vilnai, former Israeli Defence Force Deputy Chief of Staff noted:

... this war underscored the limitations of plasma [screens], especially when [they are] accorded disproportionate priority over training and discipline.²⁴

Countering tendencies to command from behind a computer, the Australian Army annually collaborates in live exercises such as Exercise Hamel. Exercise Hamel encourages the army to be innovative by developing, confirming and evaluating reinforced combat brigade foundation warfighting skills within a joint task force environment.²⁵ Supported by a continuous force generation cycle, Exercise Hamel is an open-ended experiment testing the army's education, training, doctrine, systems, processes and planning.

To make Exercise Hamel a success, the army collaborates across the eight fundamental inputs to capability.

Exercise Hamel ensures that the army collaboratively nurtures future leaders through investing the experience of others in the education of their peers. Encouraging innovation based on collaborative available leadership, the Australian Army employs the knowledge and skills of past, current and future army and joint commanders to observe, train and mentor currently serving commanding officers and their staff. Empowering people to coach serving commanding officers and staff is a positive and powerful mechanism enabling innovation within the army. Honestly analysing, understanding and learning from both success and failure represent critical coaching functions.

Through putting ideas to work, Exercise Hamel frames innovation in the action-producing sense. Innovations already realised in the army as a result of collaborative approaches to Exercise Hamel include: digitising the army's reinforced combat brigades; developing the army's common combat brigade standard operating procedures; enhancing air-land integration; testing and evaluating the Armoured Cavalry Regiment; and integrating Army Reserve battle groups into the reinforced combat brigades.

Meeting the requirements of the White Paper to 'adapt to change, to innovate and to integrate reform into ... core business processes', Exercise Hamel's innovations result from leaders at all levels within the army, along with joint enablers, collaborating to achieve change.²⁶ As Exercise Hamel continues to mature, a process enabled by personnel throughout the army carefully reflecting on their own performance, collaboration becomes normal business. In turn, army and Defence innovations will continue to increase as people unite, cooperate and learn.

Realising potential

Through nurturing innovation, leaders ensure that people are appropriately skilled and supported to realise their own potential. Leaders routinely and energetically encourage people to innovate, make decisions, challenge policy and take responsibility for well-considered risks. In reaching their own potential, people will experiment, learn and, sometimes, fail. Historian Paul Kennedy describes an innovation-enabling culture:

There has to be a support system, a culture of encouragement, efficient feedback loops, a capacity to learn from setbacks, an ability to get things done. And all this must be done in a fashion that is better than the enemy's. That is how wars are won.²⁷

Creating a supportive environment nurturing innovation through enabling people to realise their own potential requires the robust and continuous employment of mission command. Comparing the six mission command principles of the Australian Army with those of the US Army illustrates how the concept of people realising their own potential is central to the idea of mission command:

Australian Army	US Army
Grant trust and freedom to subordinates	Build cohesive teams through mutual trust
Junior leaders possessing a detailed understanding not only of the immediate tactical commander's intent, but also of the broader operational and strategic situation	Create shared understanding
Develop a clear expression of the senior commander's intent	Provide a clear commander's intent
Subordinates are expected to apply individual judgement in achieving the commander's intent, regardless of changing situations	Exercise disciplined initiative
Assign a subordinate commander a mission without specifying how the mission is to be achieved	Use mission orders
Junior leaders are expected to seek opportunities to immediately pursue their commander's intent once tasked and resourced	Accept prudent risk

Six Australian Army and US Army mission command principles²⁸

Mission command for both the Australian and US Army emphasises that empowered, enabled and trusted people are essential for mission success and are also a prerequisite for creating an environment that encourages innovation. To achieve mission success and innovation, both armies describe their requirements, in peace and war, as: trust; freedom; cohesion; understanding; clear commander's intent; disciplined initiative; mission orders, including the diffusion of ideas; and acceptance of risk. Ultimately, mission command requires the free flow of ideas between superiors and subordinates while simultaneously putting those ideas to work.

In summary, if the Australian Army actively educates, trains, practises, rehearses, experiments and tests for the employment of mission command, then innovation should follow. The army's education, training, doctrine, systems, processes and planning describe and define the tools and employment of mission command. With application and practice, army leaders can engender organisational innovation based on the six principles of mission command.

Extending the idea of trust enabling mission command, innovative leaders actively refuse all opportunities to enhance themselves to the detriment of others. Leaders live President Harry S. Truman's philosophy that 'it is amazing what you can accomplish if you do not care who gets the credit'.²⁹ Selflessness in leaders encourages people, including divergent thinkers, to excel and innovate even under the most challenging circumstances.

Leaders expect and confront failure.³⁰ Mission command and innovation require leaders to accept prudent risk and informed risk-taking. Eschewing risk aversion in support of innovation, leaders encourage a risk-conscious culture. In this culture, leaders encourage people to have fun and enthusiasm for their job. Enthusiasm leads to optimism. Intel co-founder Robert Noyce noted that optimism is 'an essential ingredient of innovation.'³¹ To want to work is to want to improve.

Employing mission command utilising decentralised decision-making, and viewing problems from multiple perspectives, leaders assume the burden of risk themselves. This requires them to lower the risk threshold to a level where their people feel confident in taking their own risks. Leaders realise that people often have imperfect information for decision-making and allow subordinates the opportunity to fail. People quickly learn and innovate through self-reflection and decision-making success and failure.

Fulfilling the requirements of the White Paper to ‘adapt to change, to innovate and to integrate reform into ... core business processes’ requires leaders to nurture innovation and enable people to realise their own potential. These leaders successfully foster and apply mission command. Leaders encourage people, including divergent thinkers, to excel and innovate, and sometimes fail, even under the most challenging circumstances. Leaders encourage a risk-conscious culture that enables people to view and test problems from multiple perspectives.

Conclusion

Leaders who energise and nurture organisations build the foundation for innovation. Innovation is the process of designing and implementing new methods to lead an organisation and produce better results. The diffusion process is the spread of a new idea or innovation from its source of invention to its ultimate users or adopters.

The Defence White Paper 2016 mentions innovation on no fewer than 36 occasions. While most of the White Paper’s innovation focus is broad, there is one innovation statement immediately applicable to the army:

*The more complex future strategic environment Australia faces will place greater demands on Defence, particularly its ability to adapt to change, to innovate and to integrate reform into its core business processes.*³²

To achieve this aspiration, innovation first has to be defined and understood. This article has summarised its definition in 10 characteristics which it has then utilised to examine two ideas for Australian Army innovation enabled through improving collaboration and realising people’s potential.

Importantly, and aligned to the requirements of the White Paper, this article seeks to initiate thinking on how the Australian Army can ‘adapt to change, to innovate and to integrate reform into its core business processes’.³³

The author

Brigadier Chris Field is Commander 3rd Brigade. He has previously commanded 1st Battalion, The Royal Australia Regiment and Coalition Joint Task Force 635 in the Solomon Islands. He served as Deputy Commanding General -Force Development, Combined Joint Task Force-82, in Kandahar, Afghanistan. Prior to commanding 3rd Brigade, he served as Chief of Staff, Forces Command, Head of Corps, Royal Australian Infantry and Regimental Colonel of the Royal Australian Regiment. He is a fellow of the Centre for Defence and Strategic Studies and a distinguished graduate of the United States Marine Corps Command and Staff College. Field is a graduate of the Australian Defence Force Commander Joint Task Force Course, US Army Joint Force Land Component Commander Course as well as the US Marine Corps School of Advanced Warfighting.

ENDNOTES

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- 3 Ibid.
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Strategic Planners: A response to operational complexity

By Major Andrew Maher

Abstract

The release of the Defence White Paper 2016 marked a tectonic shift in attitudes to international engagement, elevating it to an 'integrated core function' of Australian Defence Force business. This article proposes a human resources framework for the Australian Army to allow it to generate specialist planners with the ability to enhance the capability of local partners. It proposes the development of 'generalist plus' officers with regional specialisation, termed 'strategic planners' within this discussion. Such personnel would bring recent operational experience, be developed to offer specialist advice to foreign militaries and be capable of orchestrating strategic planning functions, nuanced with regional understanding and context. This form of investment reinforces the long-term requirement for defence attachés to act as military diplomats, imbued with a deep regional political knowledge and requisite language skills. The ability to perform specific advisory functions that require a nuanced understanding of the local political and cultural dynamics of a specific region is an essential prerequisite for the Australian Army to fulfil a number of the tasks set for it by the government.

Introduction

Once actions in war (both violent and non-violent) are seen as a form of language used to communicate meaning in the context of an argument, there is a possibility of being misunderstood ... Thus strategy in relation to war seeks to link the meaning of tactical actions with the intent of policy to deliver the desired policy end-state ... Strategy does not merely need to orchestrate tactical actions (the use of force), but also constructs the interpretive structure which gives them meaning and links them to the end of policy.¹

As Emile Simpson describes it, the nuance of strategy can approximate another form of language. In 1989, General John R. Gavin, Supreme Allied Commander in Europe, argued for the return of uniformed strategists, perceiving that the 'language' of strategy had atrophied given the fallout from America's disastrous Vietnam and El Salvador experiences. Gavin suggested that key elements of the development of strategists include a higher level of schooling, operational experience, and lifelong personal development.²

The Australian Defence Force (ADF) does not develop specialist 'strategists', but instead trains and assesses all officers in tactical planning at single-service schools and throughout their subsequent promotion courses, assuming that strategic (and operational) skills will be instilled by osmosis.³ In the age of the 'strategic corporal', this is a mindset that must be questioned.⁴ Indeed, today's 'disruptive thinkers' are doing just that.⁵

Inadequate strategic thinking was the theme of a recent RAND review of America's wars since 11 September 2001, aptly captured in the title 'Improving Strategic Competence':

Two themes emerged from this survey. First, land warfare has evolved away from conventional combat against state actors and their standing forces to an increasing incidence of irregular warfare fought by joint forces, against non-state actors. This has led to an increasing reliance on SOF ... Second, while the Army often learns tactical and operational lessons from the wars it fights, it often struggles to incorporate these wars' broader strategic lessons ... The joint force and the US government as a whole have displayed an ongoing ambivalence about and lack of proficiency in the non-combat and

*unconventional aspects of war and conflict against non-state actors, despite their increasing frequency.*⁶

A recent United Kingdom (UK) report into strategic thinking and planning identified similar limitations:

*The central contention of our Report is that Government has lost the capacity to think strategically ... the UK has “lost the institutional capacity for, and culture of, strategic thought” ... Our main recommendation is to create a “community of strategists” ... However, the response is largely silent on our central recommendation about the need to recruit, train and promote strategic thinkers.*⁷

Is Australia any different to its United States (US) and UK counterparts? Indeed, such observations should cause some trepidation given that the ADF's officer development model is so similar to that of its ABCA partners. However, this article proposes an alternative framework for the development of a uniformed strategist, responding to the observation that, while Western forces have dominated the tactical battle, strategic success has remained elusive. The driver for change is evident in the fragile transition in Afghanistan; the fact that Western forces have been forced to re-intervene in Iraq only three years after transition; and that the intervention in Libya cannot be regarded as a success.⁸

Williamson Murray and Mark Grimsley offer their own model, highlighting that strategy is 'a process, a constant adaptation to shifting conditions and circumstances in a world where chance, uncertainty and ambiguity dominate ... [and conclude that] a cadre of strategically educated and adept individuals capable of coping with this uncertain environment is a necessity.'⁹ Adaptive Campaigning suggests a need to 'probe' the operational environment on a continual basis, learning and adapting accordingly.¹⁰

Indeed, the Defence White Paper 2016 articulated an intention for the ADF to routinely engage with the operating environment through the mechanism of international engagement. It would achieve this through:

- increasing investment in the Defence Cooperation Program to build confidence and the capacity of countries in the Indo-Pacific region to contribute to collective security (para 5.8)

- increasing the number of multinational exercises in which the ADF participates across the immediate region and the broader Indo-Pacific (para 5.9)
- increasing the number of Defence personnel overseas to conduct more liaison, capacity-building, training and mentoring with partner defence and security forces (para 5.10)
- increasing investment in training ADF and Australian Public Service personnel responsible for undertaking international engagement so as to support these initiatives (para 5.11)

This article responds to the direction provided in the White Paper, exploring the selection, development and employment of personnel as ‘generalist plus’ officers for strategic planning roles.¹¹ The long-term objective of developing such personnel is to groom future defence attachés with 10 or more years of regional experience and considerable expertise. In order to frame a capability gap of military strategists, regional experts and future defence attachés, the next section will review the complexity of the operating environment, consider the professional military education that addresses such complexity, and examine the means to retain such skills in the workforce.

A complex operating environment

Globalisation has driven complexity in strategic issues through the inter-linked ethnic, economic and political systems now spanning the globe which inevitably yield the ‘law of unintended consequences’. Adaptive Campaigning codifies such complexity, and demonstrates the requirement for personnel operating, planning and thinking with a long-term, nuanced view. The Future Land Warfare Report 2014 describes this complex environment as crowded, connected, lethal, collective and constrained.¹² The White Paper also focuses on this trend towards complexity, and seeks to mitigate it through multilateral approaches described thus:

*As Australia’s strategic environment becomes more complex it is important to further develop our international partnerships including with our allies the United States and New Zealand, and with Japan, Indonesia, India, Singapore, the Republic of Korea, China and other key partners.*¹³

Reflecting on the complexity of the operating environment in recent wars in the Middle East, Kilcullen and others have called for specialist training for the planning and conduct of counter-insurgency operations, having highlighted the cultural awareness deficiencies that are readily apparent within Western militaries. Indeed, 'policy makers with an in-depth knowledge of the Koran and what it means to the various Sunni and Shia sects are the rarest of beings. Lacking that nuanced understanding, we interfere far away without understanding the domestic consequences.'¹⁴ But was this any different in the past? How well did we understand the ideology, motivation and intentions of the Vietcong prior to the Vietnam War? How well did we understand the ethnic differences between the Tutsis and Hutus in Rwanda? Was there anyone in the ADF who spoke Pashto in 2001? It is important to ask the awkward question of whether interventions in Vietnam, Iraq and Afghanistan might have been more successful had Australian forces been equipped with a better strategic understanding of their foe when crafting operational plans. Indeed, it is worth asking whether this deficiency in cultural, political and regional understanding is undermining the ADF's strategic competence.

A targeted focus on developing regional advisers is a hedge against the conventional warfare orientation of the ADF, the rising frequency of irregular challenges¹⁵ and the increasingly strategic nature of current conflict.¹⁶ It is notable that other militaries enjoy significant access and influence as a result of having such advisers. A prominent example is the Iranian General Ghasem Soleimani, commander of the elite Revolutionary Guard's Quds Force, who has routinely been photographed with Iraqi, Syrian and Hezbollah senior leadership figures over the course of the past decade.¹⁷ Iranian success in coordinating proxies across the Middle East is indicative of the value specialist adviser capability affords a military.

Countering complexity with education

In 1996, Dietrich Dörner, a psychologist studying the way people interact with complex problems, discovered that experience was the single most important variable in distinguishing performance in simulations involving complexity.¹⁸ The challenge therefore lies in building organisational experience pertaining to particular complex problems — characterised in this case by geographic, ethnic and linguistic regions. Such experience

might be built through education and gradually increasing levels of exposure to foreign nations. A professional military education study by the Australian Strategic Policy Institute (ASPI) in 2012 recommended that the 'ADF ... adopt a policy of increasing the number of personnel with higher postgraduate qualifications' and that 'the ADF ... examine ways and means of securing for selected officers a one- or two-year master's degree at a civilian university with a significant component of research.'¹⁹ The key to such a recommendation is likely to lie in the aspirational goal of cognitive diversity, again a variable that has been found to improve engagement with a complex problem. Indeed, this recommendation by ASPI holds the potential mechanism for building foundational knowledge to manage the complexities resident in a given region.

The army's recent implementation of alternative career pathways, outplacements and diversifying opportunities all point to a similar goal of increasing cognitive diversity. By targeting junior officers who have demonstrated the potential for strategic thinking, an organisational return on investment and individual retention mechanism are simultaneously introduced at precisely the time when talented individuals are considering alternative careers (usually around five to six years' experience in the ADF).

Describing the requirement

The strategic planner concept seeks to address a specific capability gap; strategic planners must be capable of planning operational actions, cognisant of their strategic effect. The crux of this challenge lies in understanding foreign cultures, a challenge clearly articulated in the White Paper. The previously mentioned RAND study into lessons from the past 13 years of war identified seven lessons, summarised in Table 1 below:

Development of a specialist planning capability within the context described by RAND must be considered with a long-term aim of growing capability that is imbued with joint, interagency planning expertise, an understanding of behavioural science and complexity, and regional cultural and language skills. Such persons should hold a postgraduate qualification in international relations or security studies, ideally with a language skill, and a strong understanding of the geo-political influences in a designated target region or country. This envisioned capability is similar to the US Foreign Area

	Description	Explanation
Lesson 1	A deficit in the understanding of strategy	'The blurry line between policy and strategy requires both civilians and the military to engage in a dynamic, iterative dialogue to make successful strategy, but that often failed to occur ... The ends, ways and means did not align, whether because the policy objectives were too ambitious, the ways of achieving them ineffective, or the means applied inadequate.' ²⁰
Lesson 2	Deficits in the process for formulating strategy	'Formulating strategy is further inhibited because there is no established integrated civilian-military process that would rigorously identify assumptions, risks, possible outcomes, and second-order effects through soliciting diverse inputs, red-teaming, and table-top exercises. The lack of such a process inhibited timely adaptation of strategy in response to the evolution of understanding and events.' ²¹
Lesson 3	A failure to incorporate the essential political element of war into strategy.	'The US military has also been reluctant to grapple with the political aspect of war, in the belief that it is either not part of war or entirely up to the civilians to address. Yet an intervention is unlikely to produce lasting results without a strategy that addresses the political factors driving the conflict and provides for enduring postwar stability.' ²²
Lesson 4	The inability of technology to substitute for the socio-cultural and historical knowledge needed to inform understanding of the conflict, formulation of strategy, and timely assessment.	
Lesson 5	A failure to plan, prepare and conduct stability operations and the transition to civilian control, as well as belated development of counterinsurgency capabilities.	
Lesson 6	Insufficient emphasis on shaping, influence, and non-combat approaches to addressing conflict.	'There is a chronic lack of emphasis on shaping, influence, and unconventional approaches that might in some cases [avert] the need for Phase III major combat operations. The lack of emphasis can be traced to (1) a reluctance to engage in a proactive manner while a conflict is still relatively small or unthreatening, (2) an insufficient understanding of the full range of possible activities, and (3) an underdeveloped model for planning and conducting these operations as a campaign that achieves results without major combat ... Yet the paradigm is not fully established, as "Phase 0" shaping, influence, capacity-building, and unconventional activities are often seen as a prelude to and preparation for major combat operations rather than a potential alternative to them.' ²³
Lesson 7	Inadequate civilian capacity and inadequate mechanisms for coordinated implementation among joint, interagency and multinational partners.	

Table 1. Summary of RAND's Lessons from 13 years of war with grey highlight identifying points of most relevance to this article.

Officer (FAO) program, and should emulate that program with appropriate modifications for the Australian context.

In 2011, Major Cate Carter presented a compelling case asserting the utility of FAOs within the Australian Army as a whole.²⁴ Her analysis of similarities with the US system suggests a 'glide path' towards a cadre of approximately 60 officers within the army, but notes that as few as five 'would cover a sufficient variety of countries to add weight to operational planning.' Carter also noted the Australian intelligence community requirement for a FAO-like capability, commenting that 'in the modern quest for generalists, we have lost the expert'. She observed that Defence was not alone in this respect, with diplomatic staff likewise requiring rotation through regional desks, thereby diluting regional expertise.

Internationally, a similar concept to the FAO also emerged when US General Stan McChrystal advocated an ambitious level of advisory support through the 'Afghan Hands' program,²⁵ similar in concept to the British Foreign Service or an extension of the US FAO program.²⁶ Australia currently has no equivalent concept for grooming such specialists at even a modest level to support operational command. Admiral Stavridis, NATO's Supreme Allied Commander Europe from 2009 to 2013, emphasised that the Afghan Hands program is 'one of the smartest tools for achieving peace we possess', noting that 'it should be considered as a possible model for other such programs elsewhere in the world'.²⁷

Generating the requirement

Army workforce analysis has identified a requirement for almost 13% of its workforce to be 'generalist plus' officers; currently, however, only 5.5% of its workforce fits this categorisation (as at mid-2015). The generalist plus categorisation is currently utilised for members with specialist qualifications, for example a Masters in Human Resource Management that equips the officer to fill particular roles within a career management agency. The concept of strategic planners described in this article applies the specialist qualification more broadly as a blending of the benchmarks of the FAO program with the drivers of enhanced capacity for international engagement and improving strategic competence. Educational objectives that significantly enhance Defence's capacity for international engagement (for example, fluency in Mandarin Chinese) are therefore considered a 'specialist qualification' allowing specialist career management.

The development of strategic planners must first recognise the challenges in strategic planning that demand the ability to understand foreign cultures in order to be employed as an expert adviser. Consequently, screening of volunteers is critical before significant investment occurs. This screening process could leverage the existing selection models for special forces, founded on a joint process of identifying volunteers who seek additional challenges, to identify those who seek to operate to strategic effect. Furthermore, since this selection model is extant, building a strategic planner program would not represent an additional liability during this stage of force generation. For the envisaged strategic planner role, potential selection criteria might focus on personal attributes such as tolerance of ambiguity, insight, emotional quotient, social skills, the ability to think critically and foreign language potential.

Major Fernando Lujan, writing for the Center for a New American Security, defines the crux of the FAO or 'Afghan Hands' program as: 'select hard, manage easy.'²⁸ While not perfectly suited to a Defence human resource paradigm that yearns for the flexibility to rotate personnel almost universally, Major Lujan's observation describes the individual investment (and in turn retention) paradigm necessary for specialist planning and advisory roles. 'For all the talk of doctrine and preserving lessons learned, it is the people who will carry the hard-earned knowledge from the past decade of war and apply it to future security challenges.'²⁹ The failure to adhere to volunteer requirements and apply appropriate selection 'gates' undermined the Afghan Hands program and serves as a cautionary warning for a potential strategic planner streaming initiative.

Training and developing the capability

According to the White Paper, 'Defence will expand cultural and language capabilities to increase its effectiveness in operating in the region and collaborating with international partners ... Defence will increase the number of personnel with intermediate and advanced language skills to support our enhanced international engagement, with a focus on languages in the Indo-Pacific region.'³⁰ This commitment significantly improves the feasibility of the concept of the strategic planner as such language training would form the foundational training individuals would receive once selected for the strategic planner role. However, it is also worthwhile pausing to consider an alternative

paradigm should the ADF simply deliver increased language training. How will the ADF support the individual in maintaining such language skill sets since they will not be managed as linguists? How is the ADF member with the right language ‘force generated’ to the right international engagement activity or operational contingency? These human resource challenges are specifically addressed by the strategic planner concept.

The broadening of ADF individuals for a strategic planner role would leverage the existing long-term schooling program to enable the individual to complete postgraduate or advanced language qualifications appropriate to individual goals, aspirations and strengths.³¹ Moore notes that ‘despite the array of schooling available, the centre-piece of education for strategists is attendance at civilian universities.’³² Such broadening objectives are critical to building the necessary level of regional understanding to perform successfully in international engagement.

Future strategists would then be developed through training in joint operational planning, information operations, psychological operations, network analysis, and ‘red teaming’.³³ Such diversification is essential to develop people equipped to fight the contemporary non-state networked threats — a challenge which the ADF professional military education continuum appears unable to meet. Advocating for a ‘red teaming’ capability in the Australian Army, Lieutenant Colonel Rose argued that, ‘as military professionals in a complex, chaotic system such as war [members of the army] require tools, attitudes and methods to challenge our solutions, actively explore them, reduce our risk and highlight opportunity.’³⁴

Figure 1 illustrates the selection and training models that different organisations have employed for the adviser role and attempts to capture their relative efficacy. An ‘adviser course’ is a critical inclusion in the optimum model.³⁵ Distilling lessons from recent operational experiences, capacity-building operations in Vietnam and the Pacific, and complementary language study, a baseline would be set for an individual’s regional ability to plan host nation capacity-building through such instruction. This training would enable an individual to plan and execute targeted international engagement activities that worked to support Australian strategic objectives and thereby increase the ability of that individual for subsequent challenges as a uniformed strategist.

Recognising that schooling is not the only component to strategic thinking, the development of experience specific to planning in the complexity of today's operating environment is also envisaged over this total development period. Strategic planner development (trainees) would cost a minimum of six positions at senior captain (O-3) to major (O-4) rank³⁶ and a similar number for long-term schooling to enable a baseline strategic planner capability to be built.³⁷ Once qualified, these officers would fill the role of lead planner for international engagement exercises within organisations such as brigade headquarters, special operations headquarters and amphibious task group headquarters.

Under this program, the individual would remain responsible for maintaining situational awareness of his/her specific area, reaping enormous benefits for Defence in supporting the expansion of the Defence Cooperation Program (DCP) and long-term planning for defence attaché appointments. This model is illustrated in Figure 2 below, and shows how ADF institutional support could utilise extant international engagement activities, the language study tour program where applicable³⁸ or overseas postings where appropriate,³⁹ to further develop such individuals.

Employing the capability

Strategic planner regional and country specialisations aim to assist human resource management and to align with FAO designations wherever possible. To ensure interoperability with US planners, the following designations are suggested; these designations also illustrate the potential for targeted employment:

- A – Command streaming Officers
- B – Latin America (Spanish)
- C – European (French) – which in the Australian context would include Trans-Sahel Africa, NATO and the UN
- D – South Asia (Farsi/Dari/Urdu/Hindi)
- E – Eurasia (Turkish, Eastern European or Russian language)
- F – China – which in the Australian context should be designated Indochina, to include Taiwan, Laos, Cambodia and Vietnam (Cantonese, Khmer or Viet language skills)

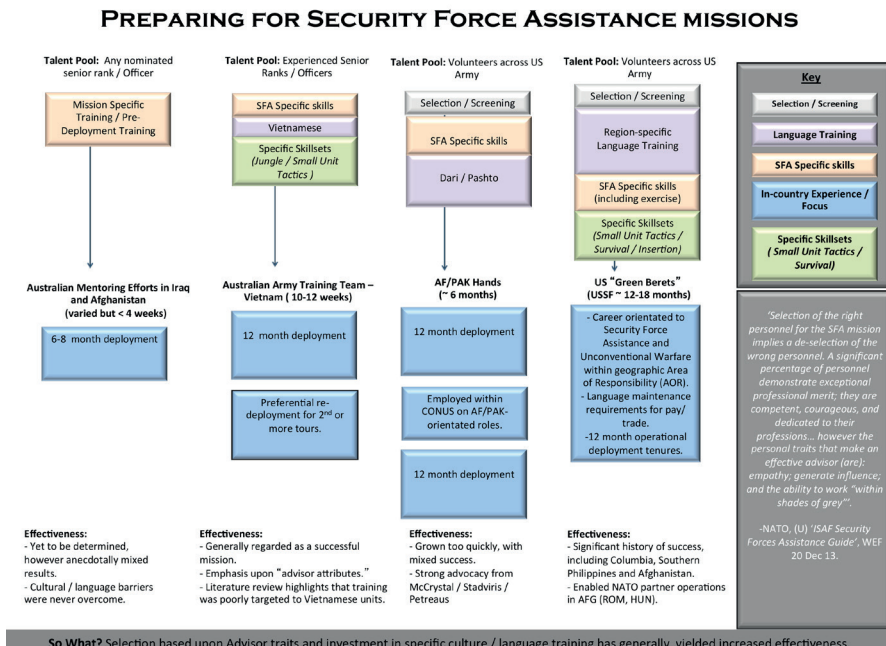


Figure 1. Summary of historic operational force generation models for advisers.

- G – Middle East (Arabic)
- H – North-East Asia (Japanese, Mandarin or Korean)
- I – South-East Asia (Thai, Malay or Tagalog)
- J – Saharan and southern Africa – which in the Australian context should focus on the Eastern seaboard of Africa (Swahili or Arabic)
- N – Indonesia (Bahasa Indonesia)⁴⁰
- P – Pacific (Pidgin, Solomon Islands Pidgin or Fijian)⁴¹
- X – Niche skill sets for Defence diplomacy outside regional orientation (e.g. PhD qualifications in international relations or a masters in anthropology).

The benefit of investment in a strategic planner capability would be maximised in an operational context through using respective strategic planners for contingency planning (for example, a 'D' planner would be used to support a planning team focussing on the Straits of Hormuz, or an 'F' planner to supplement a planning team for the southern Philippines). Ideally, the experience gained by strategic planners earlier in their career will have

provided them an intimate understanding of the region in question. As was typical in most ADF deployments over the past decade, such specialist human resources are required within hours, or at most weeks. Indeed, exploiting those officers trained as strategic planners to fill DCP postings across the region may pre-position the right human resource prior to the emergence of a crisis.

Emile Simpson, in *War from the Ground Up*, describes ‘conflict as politics’ which, when extrapolated through the analogy ‘all politics are local’, highlights the need for local understanding of drivers for conflict so as to orchestrate successful strategy. Simpson notes: ‘strategy can use the flow of history as an emotional current upon which to float its rational narrative ... The idea that we can associate strategic effect by aligning ourselves with the currents of history is an important consideration.’⁴² To ‘improve strategic competence’ the ADF requires regional specialists with an understanding of the local politics pertinent to a particular region — specialists who take time and investment to grow.

Managing the capability

The opening of amended ‘pathways’ for Command and Staff College accreditation provides a unique opportunity for developing military strategists and future defence attachés. Indeed, further broadening of career management pathways should be considered for the development of strategic thinking and regional expertise. For example, an embedded adviser to a foreign military battalion-sized organisation might be a viable alternative to an O4 sub-unit command appointment, filled through the expanded DCP. Indeed, the operational employment of advisers within the Australian Army Training Team – Vietnam or British advisers to the Royal Armed Forces of Oman during the Dhofar insurgency, exemplify the value of culturally competent embedded officers. The allocation of overseas Command and Staff College appointments, such as to Japan, Indonesia or Pakistan, could clearly be used to enable the strategic planner model, where officers demonstrate potential beyond that of a defence attaché. At the O5 level, appropriate service within organisations such as ASPI, Border Protection Command, the Office of National Assessment, the Defence Intelligence Organisation, the Department of Foreign Affairs and Trade or US theatre commands may present a viable alternative to a unit command appointment

for the specific purpose of grooming a future defence attaché. This career management paradigm should represent personal, informal management through service career management agencies to ensure the retention of such personnel within the ADF.

A tangible demonstration of the model of the strategic planner concept can be found in the career profiles of a number of individuals who had a marked impact on World War II and the Korean War, yet who did not conform to the 'command streaming' officer model. One such officer was Lieutenant Colonel John E. Beebe who was 'an intelligence officer on General MacArthur's staff in the Philippines and Japan during World War II. From 1946 to 1949 he was Assistant Army Attaché at the American Embassy in China. During 1949 he spent 5 months behind Chinese Communist lines. He served in Korea with the 40th Infantry Division and subsequently was assigned to the Korean Military Advisory Group as Senior Advisor to the Commanding General, Southern Security Command, Republic of Korea, for 9 months during which time anti-guerrilla operations were conducted' that effectively rid South Korea of its communist insurgency.⁴³

DEVELOPING REGIONAL SPECIALISTS

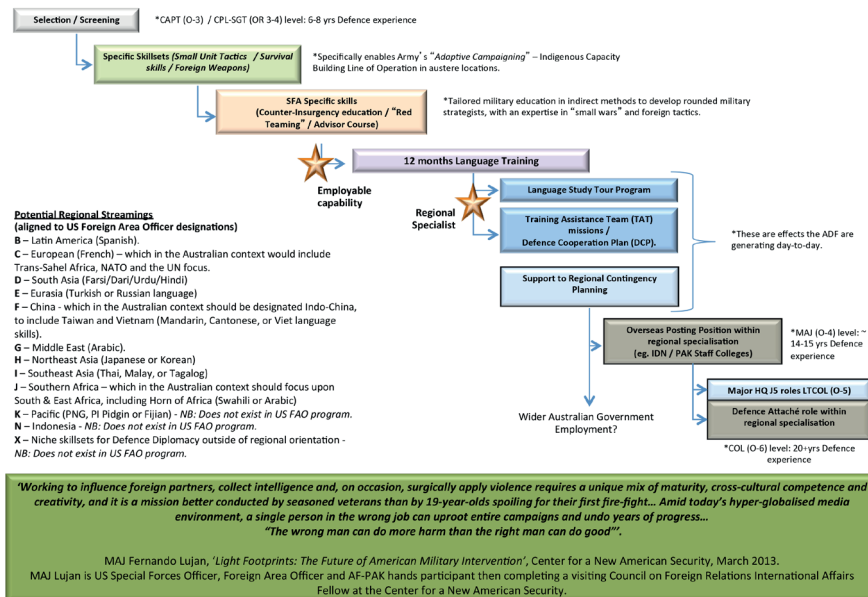


Figure 2. Developing strategic planners.

Beebe's example demonstrates that the value of certain human resources is difficult to articulate before they are needed. In the same way, the Australian Army lacks doctrine or professional development to meet Adaptive Campaigning's fifth line of operation — indigenous capacity-building — which implies the development and retention of specialist personnel with unique backgrounds and skills. This is a notable gap. Major Lujan's observation addresses the strategic imperative to select, train and develop those with the potential to represent Australia's interests — its future 'military diplomats':⁴⁴

*Prevention is the new "victory" ... the wrong man can do more harm than the right man can do good ... [our] most critical resource is human capital – talented, adaptable professionals who are not only fluent in language, culture, politics and interpersonal relationships but also willing to wade into uncertain environments and influence outcomes with minimal resources.*⁴⁵

Conclusion

In 2011, then Vice Chief of the Defence Force General David Hurley observed that the ADF needs to be 'deeply engaged with regional countries and possess an exceptionally strong understanding of their cultures, languages and ways of thinking.'⁴⁶ The development of such understanding presents a significant obstacle to current career management processes due to the time obligations for postgraduate education and language training. However, to the strategic planner concept, an understanding of culture and language represents a symbiotic relationship with imbued critical thinking and planning skill sets. Nowhere is this relationship more pertinent than in lessons that should be drawn from the ADF's experience in East Timor, Solomon Islands, Iraq and Afghanistan, with very different cultural orientations and language demands.

The UK Public Administration Select Committee 2010 inquiry into UK national strategy quoted the Chief of the Defence Staff, Sir Jock Stirrup, who drew particular attention to the fact that, in his view, the UK has 'lost an institutionalised capacity for, and culture of, strategic thought'. While acknowledging that the UK certainly possessed people who could think strategically, Sir Jock considered that his nation had become 'hunter-gatherers of strategic talent, rather than nurturers and husbandmen.'⁴⁷

This article has advocated the nurturing of a strategic planner cadre, the creation of a virtual, specialist network, daily orientated to the international engagement function, that can be used as required to perform specific planning roles within the Defence establishment.⁴⁸ Strategic planners would conceivably also constitute a pool of specialist advisers for foreign capacity-building operations.⁴⁹ Over time, they would develop situational awareness of their targeted region through repeated international engagement iterations, language study tours and overseas postings.

Within such a context, General Gavin's poignant advice still resonates:

*We can never predict who will be in the key positions of strategy formulation and execution in a time of crisis, and we cannot expect to be able to create "instant military strategists" in time of war. In order to have the ability to expand, we need a structure ... in which at any one time there are officers at all levels experiencing a maturation of their talents as strategists.*⁵⁰

About the author

Major Andrew Maher has served in a range of operations, training and staff appointments within the Australian Army, including overseas service in Afghanistan and Iraq. He holds a Masters in Defence Studies from the University of New South Wales, Bachelors degrees in Human Resource Management and Civil Engineering, and has travelled extensively.

ENDNOTES

- 1 Emile Simpson, *War from the ground up: Twenty-first-century combat as politics*, Oxford University Press, New York, 2013, pp. 28–29.
- 2 Charles Moore, 'What's the matter with being a Strategist (now)?', *Parameters*, winter 2009–10, p. 6.
- 3 Strategic skills are exceptionally difficult to develop, as strategy is effectively a form of 'contingent guessing' about how the essentially unpredictable future will unfold. This topic is discussed in detail by Barry Watts in his chapter 'Barriers to acting strategically: Why strategy is so difficult' in *Competitive Strategies for the 21st Century: Theory, History and Practice*, edited by Thomas Mahnken, Stanford University Press, CA, 2012.
- 4 See Brigadier Michael Krause, *Square pegs for round holes*, Working Paper 132, Land Warfare Studies Centre, June 2007. In a similar vein, Krause laments that 'formal joint training is often first received at Staff College by middle-ranking majors'. In an environment increasingly dominated by joint, interagency frameworks, an understanding of strategy is necessary at a far earlier stage of training than after almost 15 years of service.

- 5 This phrase notes the controversial essay by Benjamin Kholmman, 'The Military needs more Disruptive thinkers', *Small Wars Journal*, 5 April 2012, at: <http://smallwarsjournal.com> (accessed 12 June 2012). Kholmman highlights the benefit of drawing on innovation at the typically O3 rank — the 25 to 30 year olds — by educating these individuals in fields well outside Defence, to bring new concepts and approaches to military problems. While criticised for his essay, it is worth noting that the German staff system under Moltke at the dawn of the twentieth century instituted a similar methodology, thereby introducing the technology of the telegraph to the German army. The importance of cognitive diversity has been identified by DSTO as critical to effective decision-making in complex environments.
- 6 Linda Robinson, Paul Miller, John Gordon IV, Jeffrey Decker, Michael Schuille and Raphael Cohen, *Improving Strategic Competence: Lessons from 13 years of War*, RAND, 2014, p. xi, at: www.rand.org. RAND's conclusions are supported by senior members within the US Department of Defence, evidenced by the statement: 'Time and again, the US has undertaken to engage in conflict without fully considering the physical, cultural, and social environments that comprise what some have called the "human domain".' Raymond Odierno, James Amos and William McRaven, *Strategic Landpower: Winning the clash of wills*, TRADOC, Washington DC, 6 May 2013.
- 7 Public Administration Select Committee, *Who does UK National Strategy?* House of Commons, London, 28 January 2011.
- 8 'Libya represents the most active sanctuary for Salafi-jihadist groups in North Africa'. Seth Jones, *A persistent threat: The evolution of al Qaeda and other Salafi Jihadists*, RAND, 2014, p. x, at: www.rand.org. Instability from weapons proliferation across the Maghreb prompted a French-led intervention in Mali, and Libya remains fractured politically.
- 9 Moore, *What's the matter with being a Strategist (now)?*, p. 8.
- 10 See Australian Army, 'Adaptive Campaigning – Future Land Operation Concept', at: <http://www.army.gov.au/Our-future/Publications/Key-Publications/Adaptive-Campaigning> (accessed 21 January 2015).
- 11 A 'generalist plus' is a generalist army officer with a tertiary qualification that is relevant to army capability.
- 12 Directorate of Future Land Warfare, *Future Land Warfare Report*, Department of Defence, Canberra, 2014.
- 13 Department of Defence, Defence White Paper 2016, Australian government, Canberra, 2016, p. 22.
- 14 John Blaxland, 'No conflict in our backyard', *Canberra Times*, 12 September 2014.
- 15 'Irregular warfare has historically been and will probably continue to be the main form of organised violence across the planet.' David Kilcullen, *Out of the Mountains: The Coming Age of the Urban Guerrilla*, Oxford University Press, 2013, p. 103.
- 16 Simpson notes: 'The extent and speed of inter-connectivity associated with contemporary globalisation can unhinge classical strategy. Contemporary globalisation challenges the two prerequisites of war in the Clausewitzian paradigm: first, in the proliferation of strategic audiences beyond the enemy; second, in the tendency for conflicts in general to be drawn further away from the pole of 'pure polarity' as strategy tends increasingly to be sensitive to the opinions of global audiences. The consequence is the erosion of the distinction between military and political activity.' Simpson, *War from the ground up*, p. 68.
- 17 Ian Black and Saeed Kamali Dehghan, 'Qassem Suleimani: commander of Quds force, puppeteer of the Middle East', 17 June 2014.

- 18 Dietrich Dörner, *The Logic of Failure: Recognising and Avoiding Error in Complex Situations*, Metropolitan Books, 1996, p. 7.
- 19 Hugh Smith and Anthony Bergin, 'Education for the profession of arms in Australia', *ASPI*, Issue 48, August 2012, at: www.aspi.org.au (accessed 31 August 2012).
- 20 Robinson et al., *Improving Strategic Competence*, pp. xii–xiii.
- 21 *Ibid.*, p. xiii.
- 22 *Ibid.*, pp. xiii–xiv.
- 23 *Ibid.*, pp. xiv–xv.
- 24 Major Cate Carter, 'Cause for engagement: Examining the case for Foreign Area Officers in Army', *Australian Army Journal*, Vol. VIII, No. 2, 2011.
- 25 'We decided to field a cadre of several hundred American military officers and NCOs – "Afghan Hands", after the "China Hands" of the 1930s and 1940s – who would be trained in the languages, history and cultures of Afghanistan and Pakistan, and then employed there over a five-year period. On rotations in country and back in the United States, their focus would be the same region or topic.' Stanley McChrystal, *My share of the Task: A memoir*, Penguin Group, NY, 2013, p. 307. McChrystal added that, 'after almost a year in command, I was more convinced than ever that a cadre of language-trained professionals, steeped in the culture and assigned for multiple tours to establish genuine relationships, would be the single most powerful asset we could field.' (pp. 385–86).
- 26 Indeed, Douglas Pike in his *People's Army of Vietnam* (Presidio Press, CA, 1986, pp. 4–5), describes himself (US Foreign Service) as having 'grown up with the Vietcong' over 15 years of service. He elaborates: 'a person with a background in political science (especially Marxism-Leninism), social psychology, and the communication of ideas can better explain the unrolling phenomenon of the Vietnam War than one schooled in military science.'
- 27 Admiral Stavridis, 'Teaching the Ropes', *Proceedings*, May 2010, at: <http://www.usni.org>.
- 28 Major Fernando Lujan, *Light Footprints: The Future of American Military Intervention*, Center for a New American Security, March 2013, p. 24. MAJ Lujan is an Army Special Forces Officer, Foreign Area Officer and AF-PAK hands participant completing a term as a Visiting Fellow at the Council on Foreign Relations International Affairs at the Center for a New American Security.
- 29 *Ibid.*, p. 29.
- 30 Defence White Paper 2016, para 6.31, p. 153.
- 31 It is highly recommended that the proposed strategic planner capability be developed with a return of service obligation following the completion of long-term schooling in order to justify proposed ADF expenditure. This obligation in turn provides career management certainties, noting the long lead time involved in generating this capability.
- 32 Moore, 'What's the matter with being a Strategist (now)?', p. 12.
- 33 'Red Teaming is an activity performed by individuals educated and trained to enhance staff planning and decision making; decision support, critical review, and threat emulation ... It is a function that provides commanders an independent capability to fully explore alternatives in plans, operations, concepts, organisations and capabilities in the context of the operational environment and from the perspectives of our partners, adversaries and others.' This training is delivered for the US Army by the University of Foreign Military and Cultural Studies. See: <http://usacac.army.mil/cac2/UFMCS/FAQ.asp> (accessed 1 September 2012).

- 34 Lieutenant Colonel Nick Rose, 'Thinking Red for the Australian Army', Land Power Forum, 2 September 14, at: <http://www.army.gov.au/Our-future/Blog/2014/September/Thinking-Red-for-the-Australian-Army>, (accessed 15 September 2014).
- 35 Members of the Australian Army Training Team – Vietnam completed an adviser course of almost six weeks in duration. RAND recommends for the US context: 'Reopening the advisory school at Fort Bragg can be a powerful mechanism for developing common procedures and understanding for operating in small, distributed, blended formations, as well as [providing] a ready cadre of trained advisers able to meet the expected demand of a national security strategy that places increased emphasis on partnered operations and building partner capacity.' Robinson et al., *Improving Strategic Competence*, p. xviii.
- 36 These positions generate resilience in the S3/S5 functions, that can accept the loss of a strategic planner to support a planning team, leveraging their regional expertise. A senior captain to junior major rank will offer sufficient reporting history to identify whether the incumbent has a noted potential for strategic employment, while also providing a sufficient tactical base from which the officer can be groomed for operational-strategic roles.
- 37 While additional positions are recommended, short-term development of the strategic planner concept may be possible at neutral growth but would be constrained without dedicated pool positions.
- 38 Language study tour programs are three weeks in duration, and are fully funded by the army.
- 39 Andrew Davies, Peter Jennings and Ben Schreer, *A versatile force: The future of Australia's special operations capability*, ASPI, April 2014, p. 27, at: www.aspi.org.au. The authors recommend enhancing 'SOF regional engagement through regional liaison elements'. Davies et al. also recommend that 'maintaining and strengthening SOF cooperation with our US ally is vital ... similar arrangements [to the establishment of a SOCOMD liaison post at US PACOM] could be considered with US Central Command and US Africa Command' (p. 6).
- 40 Note that there is no 'N' designation (Indonesia) within the US Army FAO program, but this is clearly a sound investment in Australia's most significant neighbour.
- 41 Likewise there is no 'P' designation (Pacific) within the US Army FAO program. This affords a unique capability option for Australia (and potentially New Zealand) to 'force generate' for combined strategic outcomes within the coalition planning environment.
- 42 Simpson, *War from the Ground Up*, p. 216.
- 43 Lieutenant Colonel John E. Beebe, 'Beating the Guerrilla', *Military Review*, Command and General Staff College, KA, Volume XXXV, No 9, December 1955.
- 44 This terminology borrows Lieutenant General Peter Leahy's 'Military diplomacy' term, used in a submission to the Defence White Paper 2015, at: <http://www.defence.gov.au/Whitepaper/docs/251-Leahy.pdf>, which concludes with the recommendation that: 'the Minister maintain his interest in military diplomacy and direct the ADF to seek ways of further enhancing military diplomacy with a focus on the Asia Pacific Region.'
- 45 Lujan, *Light Footprints*, p. 5. Major Lujan is commenting on the small-scale nature of future American military interventions, and the resultant imposition on human resources.
- 46 Smith and Bergin, *Education for the profession of arms in Australia*.
- 47 Public Administration Select Committee, *Who does UK National Strategy?* First Report of Session 2010-11, House of Commons, London, 12 October 2010, p. 6.

- 48 This draws the parallel to Major General (ret'd), Stanley McChrystal, 'It takes a network: The new frontline of modern warfare', *Foreign Policy*, 22 February 2011, at: www.foreignpolicy.com (accessed 14 April 2011).
- 49 'Joint and service capabilities that create and maintain regional familiarity or expertise, advisory capability, and other special skills for irregular warfare and stability operations should be preserved and refined at the level needed to execute current military plans. These personnel can serve as a training cadre for rapid expansion in the event of a large-scale stability operation or counterinsurgency'. Robinson et al, *Improving Strategic Competence*, p. xviii.
- 50 Moore, 'What's the matter with being a Strategist (now)?', p. 18.

Preventing Catastrophic Terrorism

By Major Raymond Lindsay

Abstract

The twenty-first century is increasingly challenging the efficacy of Cold War era non-proliferation regimes intended to prevent the spread of weapons of mass destruction (WMD). There are significant limitations to the contemporary reliance on these regimes and associated interdiction activities intended to prevent proliferation. The existing controls have failed to prevent the spread of nuclear weapons to states that previously did not possess such weapons, and there are also continuing concerns that catastrophic weapons, including weapons of mass effect (exemplified by the September 11 attacks), will be acquired or developed by non-state actors to fundamentally threaten the traditional state monopoly on legitimate violence. This article examines the existing system of global proliferation controls, the relevance of the growing risk gap, and policy and capability decisions that may reduce this gap. To mitigate this threat, Australia must start with an integrated concept that integrates existing non-proliferation efforts with maritime strategy, and considers broad social and technological changes.

Introduction

Hopes that the end of the Cold War would usher in a period of relative stability and general economic prosperity have largely evaporated. The superpower paradigm of United States (US)–Soviet relations was superseded by a period of US hegemony and has now evolved into a multi-

polar economic and security environment. This environment has heralded the emergence of proxy forces and the strategic rise of violent non-state and sub-state actors. Terrorism, once considered a weapon of the weak,¹ has metastasised into the strategically ambitious 'new terrorism' capable of challenging Westphalian concepts of state and power. Foreign Minister Julie Bishop has described contemporary terrorism as 'more dangerous, more complex, more global than we have witnessed before – a pernicious threat that could, if left unchecked, wield great global power that would threaten the very existence of nation states.'²

Traditionally, nuclear deterrence diminished the risk of warfare between nuclear-armed states while a web of proliferation controls attempted to restrict weapons of mass destruction (WMD) technology to the few advanced nations that possessed them. However, in an era of globalisation and technological diffusion, this technological monopoly no longer exists and the incidental diffusion of technology and information continues to erode controls aimed at containing the spread. Efforts at containment are further challenged by contemporary terrorism and violent non-state actors (VNSA) for which the traditional controls were not designed and are largely inappropriate.

Beyond widely discussed concerns over non-state actors' acquisition or development of WMD, there are also fears that unconstrained terrorist organisations will employ new techniques or widely available technology to conduct catastrophic acts of terrorism such as those of September 11. These attacks, using what have been termed 'weapons of mass effect', pose a potential threat to Australian national interests and require a revision of the policies, capabilities and relationships designed to mitigate this threat. A national approach to counter catastrophic threats from VNSA may represent a significant divergence from the traditional approach employed to counter WMD.

This article examines the potential for terrorist acquisition or use of catastrophic weapons and the possible role of the Australian Defence Force (ADF) in developing a means to mitigate this threat. This discussion will cover a number of areas, providing an overview of current policies, addressing the growing risk gap, and examining policy and capability decisions that may reduce the risk of catastrophic terrorism. For the sake of brevity, this article will focus on technological advances and social changes relating to

the chemical and biological threat areas rather than the more general trends affecting high-impact (catastrophic or mass effect) terrorism.³ The article will also highlight issues of concern, principally in areas with Defence policy and capability implications versus broader preventative strategies such as social inclusion, incarceration processes and customs screening. Specific weapon threats and countermeasures (such as prophylaxis to specific biological threats) will not be addressed in this discussion.

Current state of relevant policy

Given the heightened post-9/11 concern over the potential for terrorist acquisition of WMD, there is remarkably little consensus among developed nations on key definitions of terrorism and WMD. A fundamental issue is the disparate political and military interpretations of which weapons comprise WMD. The definitive 1948 United Nations (UN) definition is:

... atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above.⁴

While the UN definition includes 'any weapons developed in the future' with comparable destructive effects, previous attempts at expanding UN controls (such as those attempted for radiological weapons, infrasound weapons, and genetic weapons affecting the mechanism of hereditary) have demonstrated the UN's inability to pre-emptively progress resolutions that cover 'exotic' and 'non-existent' weapons.⁵ The term WMD continues to be employed liberally to include a broad range of threats. For instance, in 2001, then director of the US Defense Threat Reduction Agency, Major General Bongiovi, presented testimony that included an expansive WMD definition:

... the definition encompasses nuclear, chemical, and biological weapons. However, it also includes radiological, electromagnetic pulse, and other advanced or unusual weapons capable of inflicting mass casualties or widespread destruction. In addition, conventional high explosive devices, such as those used in the attacks on Khobar Towers and the USS COLE, are legally and operationally considered to be WMD.⁶

The Australian definition of WMD is included in the *Weapons of Mass Destruction (Prevention of Proliferation) Act 1995*. The Act states that a 'WMD program means a plan or program for the development, production, acquisition or stockpiling of nuclear, biological or chemical weapons or missiles capable of delivering such weapons.'⁷ Both the UN definition and the Australian definition include all chemical and biological weapons and do not discriminate as to the potential lethality of the WMD itself or the actual lethality of any attack. This implies that a chemical poisoning attack with limited fatalities or casualties may be considered a WMD attack (such as the 1995 Tokyo subway attack) whereas an incident such as the Bali bombing that killed 202 people would not qualify under the terms of the definition.

Within this context, scholars and policy-makers have recognised that it is not just the destructiveness of the weapon that matters but its net impact, including financial, psychological and catastrophic disruption — giving rise to the term weapons of 'mass effect' (WME). The most prominent policy document that refers to WME is the 2004 US National Military Strategy that contained this definition of WMD/E:

WMD/E relates to a broad range of adversary capabilities that pose potentially devastating impacts. WMD/E includes chemical, biological, radiological, nuclear, and enhanced high explosive weapons as well as other, more asymmetrical 'weapons'. They may rely more on disruptive impact than destructive kinetic effects.⁸

The term WMD/E was removed from the subsequent 2005 US National Defense Strategy and replaced with broad descriptors of the threat posed by 'an array of traditional, irregular, catastrophic, and disruptive capabilities'.⁹ While the term WME has not gained traction in the media and has limited reference in political discourse, it has continued to pervade academic literature, particularly within the US. The definition of WME is considerably broader than WMD and encompasses innovative and spectacular attacks where one of the following is true:

... the number of people killed is over 100; the attack devastated a large area – a square mile of a city or ten square miles in rural areas; the attack damaged or destroyed a critical facility, such as a power plant, a major airport, or an important government office; the attack disrupted everyday services enough to cause a significant reduction in quality of life; the attack caused significant losses to the target (eg,

\$10 billion for the United States, less for developing nations); the attack provokes and manifests a degree of terrorism – a subjective but nonetheless present psychological or emotional impact on the population.¹⁰

WME in the Australian context are listed as a potential threat in the Australian Army's *Future Land Warfare Report*. However the document makes no attempt to define these weapons beyond stating that they involve 'dual use technologies'.¹¹ While there are few policy or academic documents that specifically list the methods of attack for WME, the available references usually refer to nuclear, biological, chemical, radiological and conventional weapons.¹² Other mechanisms of attack include kinetic energy (planes, trains etc.), incendiaries (large urban fires), toxic gases, biological and chemical agents, agricultural sector attacks, industrial explosions, flooding, and disrupting or breaking critical infrastructure including cyber attacks.¹³

This broader WME definition encompasses more of the likely scenarios for attacks by terrorist organisations or non-state actors, and those that are more likely to have political or significant security consequences. Importantly, WME include sociological effects rather than simply material destruction. Differentiating by effect creates a situation in which some WME attacks will involve WMD, and some WMD attacks will be classed as the result of WME — but not all. The broader definition also fosters conceptual discussions without conflating some methods of attack as involving WMD (i.e. cyber attacks). Differentiating WME, and the public perception of their manifestation as terror weapons, may more accurately represent the community expectation of the government's responsibility to provide security.

Existing controls

UN non-proliferation controls were largely developed within a context of state-on-state conflict in the post-World War II and Cold War eras. These primarily involved the available technology and expected military utility of the time. While these controls have been partially successful in limiting the proliferation of nuclear weapons beyond the prescribed nuclear weapons states, they have not been wholly successful in curtailing 'illicit' nuclear programs (for instance, those of Israel, Pakistan and North Korea). The state proliferation and use of chemical and biological weapons are controlled by

what is commonly termed the Chemical Warfare Convention 1997 (CWC) and the Biological Warfare Convention 1975 (BWC).

The CWC departs from the previous practice of limiting the deployment and number of certain types of munitions and instead 'aims to eliminate an entire category of weapons of mass destruction'.¹⁴ Since the almost universal adherence to the CWC, state use of chemical weapons has been limited. A recent exception has been Syria's repeated use of chemical weapons in 2013, including the 21 August 2013 attack in Ghouta that resulted in the deaths of some 1400 people.¹⁵ Despite the subsequent destruction of Syria's declared chemical weapons stockpile, chlorine gas has been found to have been 'systematically and repeatedly used' as a weapon in Syria throughout 2014.¹⁶

The BWC shares a common goal with the CWC in that it seeks to prohibit, and not just limit, an entire class of weapon. However, a number of limitations exist that challenge the efficacy of the BWC. For example, much of the science and technology required for a bio-weapons program can have beneficial therapeutical and industrial applications. In an exemplary case, researchers at the Australian National University conducting genetic splicing made previous genetically immune mice populations susceptible to a virus and nullified the effects of vaccination.¹⁷ This published research raised concerns that terrorists could produce a strain of vaccine-resistant smallpox via the 'explicit instructions' provided to them by the study.¹⁸ Reaction to this experiment typifies concerns over the dual-use nature of biological research and the ability of technological diffusion to lower barriers to illicit use.

In the post-9/11 security environment, the efficacy of Cold War era proliferation controls in preventing non-state acquisition and use of WMD has been questioned, resulting in the implementation of a number of additional control mechanisms.¹⁹ These include the Proliferation Security Initiative, United Nations Security Council Resolution 1540 and the Australia Group initiative.

The Proliferation Security Initiative

In 2002, a North Korean-flagged vessel bound for the Middle East was boarded by Spanish special forces who discovered 15 Scud B missiles hidden in the hold. Yemen subsequently claimed ownership of the missiles,

citing intended defensive use, and the missiles were then released.²⁰ In response, the US launched the Proliferation Security Initiative (PSI), a voluntary coalition of states determined to 'use their national resources, including force if necessary, to interdict and seize international shipments of goods believed to be destined for use in WMD programmes.'²¹

The initiative itself relies on voluntary adherence, on a case-by-case basis, to a set of interdiction principles and, as the PSI Chairman reiterated at the fifth PSI conference, 'PSI is an activity, not an organization.'²² While the participants have been described as acting in a manner similar to a 'deputised posse', albeit consistent with existing national and international laws,²³ others have been critical of the lack of legal basis for the PSI, in particular the *innocent right of passage* where it is argued that 'the threat presented by WMD material is determined by the intended use at the point of destination, not transit.'²⁴ In the case of the threat posed by proliferation of dual-use chemical and biological pre-cursors, the end use of the material can be far more readily argued as destined for peaceful industrial purposes. Consequently, the threshold for legal pre-emptive interdiction action would be significantly higher than in the case of the Scud missiles.

UNSCR 1540

The shortcomings of the PSI were in part ameliorated by UN Security Council Resolution 1540 (UNSCR 1540) in 2004 which urged states to 'establish ... and maintain effective national export and trans-shipment controls' over systems and products that would contribute to proliferation.²⁵

UNSCR 1540 was specifically written to reinforce the existing regimes, while expanding the remit to include non-state actors. Unlike existing conventions, UNSCR 1540 imposed 'binding non-proliferation obligations outside the traditional process of negotiations'.²⁶ However many countries lack the domestic capacity (or perceived prerogative) to establish a suitable legal and enforcement framework. While UNSCR 1540 has universal applicability, it can be perceived as an indirect means to add legitimacy to the PSI, and consequently discourages countries opposed to the PSI from adhering to the convention. The national imperative or commercial interests can often outweigh the benefits of compliance.

The Australia Group

Both the CWC and BWC assist in constraining the movement of goods and technology intended for hostile purposes. However, there is a lack of inherent pre-emptive urgency within the treaty negotiation process and a 'mismatch between the rapid pace of technological change and the relative sluggishness of multinational negotiation and verification'.²⁷ This inertia has provided an impetus for the establishment of an increasing array of industry/government cooperative initiatives. The Australia Group (AG) is one example of these cooperative initiatives. The AG is a voluntary organisation that aims to use 'licensing measures to ensure that exports of certain chemicals, biological agents, and dual-use chemical and biological manufacturing facilities and equipment, do not contribute to the spread of Chemical and Biological Weapons'.²⁸ However, the AG initiative suffers from a lack of universal acceptance, including among large industrial nations such as China, Russia and India. China was particularly vocal in its criticism, asserting that the AG represented a split legal system and should be dissolved.²⁹ Lack of conformity in behavioural norms, particularly where commercial interests are concerned, remains a major obstacle and items prohibited by the AG remain readily available for purchase from sources such as Alibaba using common payment methods.³⁰

The relevance of the growing risk gap

A number of developments have increased the risk posed by the gap between reliance on the traditional 'non-proliferation' controls and the pervasive social and technical trends that characterise the contemporary operating environment. These include the effects of globalisation and the emergence of 'new terrorism'.

Globalisation

Globalisation, enabled by improved telecommunications technology, increasingly pervasive and ubiquitous social and news media, and cheaper movement of goods and people, has resulted in a socio-economic environment connected beyond the traditional barriers imposed by state and country borders. This has occurred alongside predicted growth in mega-cities, a change in the wealth and consumption habits of Asian economies,

and an eastward movement in the economic centre of gravity away from Western Europe and into Central Asia.³¹ These changes in consumption have driven a change in production patterns as organisations seek to move production closer to their consumer base. This has resulted in geographical shifts in research and production bases within the chemical³² and biotechnology industries.³³ These changes have led to increased diffusion of the materials, hardware and knowledge that comprise 'dual use' elements, potentially reducing the traditional constraints to obtaining WMD.³⁴ The PSI's traditional focus on containment of potentially highly destructive technology to a few advanced states is no longer the dominant paradigm. Technological diffusion is likely to continue and mix with violence in unexpected ways.

New terrorism

It is generally accepted that the contemporary terrorist threat is evolving and has prompted some analysts to brand twenty-first century terrorism as fundamentally different from the terrorism of the 1970s and 1980s. Some have argued that this 'new terrorism' is increasingly strategic in nature:

*... new terrorism is more strategically focused. Its objective is to roll back Western values, engagement and influence, and to weaken and ultimately supplant moderate Islamic governments ... Al Qaida and its associated networks have demonstrated both willingness and capability to inflict massive casualties on civilian targets as a strategic end.*³⁵

This 'new terrorism' has significant implications for traditional strategies designed to prevent WMD/E attacks including those associated with the diffusion of power, terrorist organisational diffusion, and reduced constraints.

Diffusion of power. Traditionally, the state alone has held the monopoly on legitimate violence. As Weber asserts, the state is the 'human community that [successfully] claims the monopoly on the legitimate use of physical force within a given territory.'³⁶ However, the dynamics of non-state power are changing. Particularly pernicious campaigns of terrorism, associated with new terrorism, threaten this monopoly. Where twentieth-century terrorist organisations were predominantly reliant on state sponsorship, and in many cases acted as proxy forces for state actions, the terrorism support base is increasingly fracturing into an amorphous constituency (the crowd sourcing

of terrorism). The new paradigm is one in which groups can be equally successful in operating within a failed or weak state, in ungoverned spaces within existing nation states or online, or as a terrorist state. This challenges both the traditional concept of states and also the relative power of states. Terrorism thus demonstrates that it is not just the size of militaries that matters, but also the strategy employed to convert resources to outcomes. WMD and catastrophic acts of terrorism pose an 'ultimate asymmetric threat' to further challenge traditional power constructs.³⁷

While 'new terrorism' has the potential to usurp the power associated with states, the seemingly unstoppable growth of terrorist groups is also supported by other disruptive technologies that are spreading power from centralised to diffuse organisations. For example, Wikileaks challenges the government containment of sensitive information; technology such as 3-D printing and additive manufacturing has allowed the development of garage manufacturing; and peer-to-peer lending services and digital currency are challenging the monopoly of traditional central banking systems. These technologies empower individuals and small groups, while concurrently challenging existing institutions and traditional controlling regimes.³⁸

Terrorist organisational diffusion. Where once Al-Qaeda was a hierarchical organisation with a clear chain of command (similar to Marxist doctrine) and a relatively limited geographical span, it has now developed (or devolved) into a group of aligned organisations working to a common strategic purpose. Contemporary Al-Qaeda has largely assumed a flat, leaderless structure and, in doing so, has decreased the utility of counter-leadership operations.³⁹ Counter-terrorism and counter-WMD/E strategies must evolve to address organisations that are increasingly resistant to external interference.

A number of contemporary factors have increased the prominence of decentralised groups and leaderless resistance structures. The first is the almost universal adoption of technology to enable terrorist groups to communicate (internally and externally), even within traditional conflict zones, and effectively conceal their signature within the signals clutter of modern life.⁴⁰ Second, counter-terrorism and counter-leadership operations have reduced the effectiveness and survivability of traditional hierarchical organisations. Where terrorist control had traditionally been exerted via a leader/subordinate relationship, perceptions of the ubiquitous nature of contemporary terrorism

are, in part, derived from online sources exhorting followers to conduct terrorist actions whenever and wherever they can, removing the requirement for additional coordination and reducing the risk of detection.

New terrorism and reduced constraints. While traditionally terrorist group activities were moderated by reliance on the direct support of state sponsorship, by contrast 'new terrorism' is likely to be supported by indirect funding from a variety of sources. This reduction in direct state sponsorship reduces constraints on action as, 'presumably, groups with amorphous constituencies are less likely to worry about the opprobrium that would accompany their use of WMD.'⁴¹ The new era of terrorism is one in which violence has evolved from a means to leverage negotiating power to an end state in itself. Whereas previously, appealing to constituencies or constraints imposed by state sponsorship acted to moderate unconstrained violence, 'Today's Terrorists don't want a seat at the table, they want to destroy the table and everyone sitting at it.'⁴² This trend is enabled by capabilities such as the 'dark' internet, negotiable goods, encryption technology, and new finance technology (such as Bitcoin). These technologies all increase the possibilities for illicit transfer of knowledge and resources.

Possible Australian policy and capability responses

Against the real and immediate problems facing the ADF, the possibility of terrorists employing WMD/E seems a low-probability event for which the ADF need only 'be prepared' to act where the problem is beyond civilian agency capability.⁴³ Counter-WMD/E does not feature prominently in defence guidance and the approach to date has been managed by a small number of highly specialised personnel. However, even while the probability of such an event is low, its potential impact on the military, government and society as a whole could be catastrophic and is an 'inevitable surprise' that should be considered within Australia's security strategy.⁴⁴ This would provide a framework for coordinated efforts to determine the likelihood of attack, reduce the success of such an attack, and then mitigate the consequences. A unified concept could combine areas such as risk assessment methodology, the role of expanded decisive influence (including deterrence), and development of concepts to inhibit violent innovation among opposing networks.

Risk assessment methodology

A WMD/E prevention campaign must be based on an appropriate risk management framework informed by an appropriate collection plan. However, a unified vision of the strategic implications of WME in the Australian context does not exist and the current broad interpretation of the threats presented by existing WMD appears likely to continue.

The extent to which the existing Australian WMD risk assessment framework is applicable and transferable to WME is unclear. However, the two topics have significant commonality. Analysis of the threat posed by WMD terrorism requires research into the motivation to commit such acts and is important for two primary reasons. First, it concerns the overall level and imminence of the threat, and second, it provides a basis for pre-emptive action to meet these threats (through a combination of pre-emption, containment, influence or deterrence). While tempting to view terrorism as ubiquitous, in reality, acts of catastrophic terrorism are more likely among certain terrorist archetypes. Where there has traditionally been a disconnect between social scientists assessing proclivity towards employment of WMD, and 'hard' scientists addressing what is possible, a unified approach should effectively combine both.

Effective intelligence within a formalised risk assessment framework is critical for enabling the full spectrum of WMD/E prevention efforts. The concepts and military options available for a non-proliferation or counter-proliferation campaign depend on the evidence (intelligence) available to build consensus. As seen in Iraq, the constraints arise not when terrorists possess WMD, but when they possibly possess WMD. Despite a move towards policies of pre-emption, the scope of acceptable military activities will continue to be governed by the quantity and quality of available intelligence. Activities such as interdiction require high levels of precise intelligence to be successful. However, establishing security cooperation and building regional capacity and trust relationships do not require specific intelligence and may set the conditions for future success. Activities such as desktop exercises, data sharing and the provision of embedded officers create a unified vision of the problem, contribute to assurance, and assist in setting conditions for an effective response.

(Re-)establishing non-state deterrence

In the wake of September 11, many governments were quick to reach the conclusion that ‘deterrence is dead’, supported by a belief that, ‘unlike states, terrorist groups like Al-Qaeda cannot be constrained in their actions by negotiation or threat of retaliation.’⁴⁵ However, more recently, academics and policy-makers have concluded that there is both theoretical and practical evidence of the contribution of deterrence to reducing the risk of terrorism in general⁴⁶ and WMD terrorism specifically.⁴⁷ An effective WMD/E prevention concept must include elements of deterrence against non-state actors. Despite the importance of this issue and a reassessment of the value of deterrence, the Australian deterrence concept for non-state actors remains underdeveloped.

A number of ADF documents highlight the importance of the ADF’s role in deterrence but there is a clear lack of a contemporary unifying strategy that illustrates the linkages between maritime strategy, deterrence (influence) concepts, counter-terrorism and counter-WMD efforts (or ideally a WMD/E prevention concept). Further, deterrence concepts must extend beyond punitive kinetic actions which risk an escalation paradigm, potentially assisting the terrorist by reinforcing the counter narrative and creating a framework for ideological opposition:

In highly complex structural situations, characterized by asymmetric (split) cultures, a lack of common knowledge, an asymmetric differentiation of actors and distribution of power and knowledge, there is a high propensity for deterrence practice to become self-defeating.⁴⁸

In the army context, this ‘asymmetric differentiation’ risks being reinforced by the methods employed to engage regionally and internationally, with strong emphasis placed on technology exchange and reinforcing military relationships with Western allies. Inevitably, high relative military technology and a lack of understanding of non-Western terrorist groups will lead to a greater propensity to employ coercive deterrence. Implementation of concepts such as sea-basing and ship to objective manoeuvre⁴⁹ risk increasing this power differential, a situation exacerbated by the widely held belief that non-state deterrence has failed and the alternative is pre-emption.

The ability of general purpose forces to deter non-state actors is limited by contemporary military experience that has added the concept of ‘quagmire’

to the military lexicon. The US deterrence concept describes this term as the 'asymmetry of stakes vs. the asymmetry of power', reinforcing the notion of self-deterrence, in which national interests are insufficient to justify the costs of intervention.⁵⁰ The willingness of Australia to protect the strategic interests of a 'stable, rules-based order' will be challenged by WMD/E and the hyper-enabled non-state actor.⁵¹ A comprehensive WMD/E prevention concept needs to consider an expanded role for Defence influence within the context of broader strategy. This concept will reduce the perceived costs of taking action and mitigate the negative consequences of interceding. Influence is a critical capability in multilateral 'new' non-proliferation efforts.

Developing the spectrum of influence activities

The various constructs of contemporary terrorism complicate deterrence efforts. Depending on the context, terrorists can range from lone actors inspired by global events to terrorist armies implementing security and governance mechanisms normally associated with statehood. Even Al-Qaeda itself, often held as the organisational exemplar of new terrorism, has 'morphed from a discrete terrorist group into a wide ranging fighting movement that conducts insurgencies, recruits foreign fighters into conflicts, raises funds, and conducts terrorism on the side – almost certainly its least resourced component.'⁵²

This broad movement is reflected in Al-Qaeda's self-reported doctrine which states that jihadist guerrilla warfare consists of three stages: exhaustion (limited terrorism), the balancing stage (limited decisive battles and guerrilla warfare), and finally decisiveness and liberation (area control).⁵³ These stages can be viewed as concurrent efforts with varying degrees of 'mass' at different locations throughout an organisation's presence (both physical and non-physical). The mass and presence of an organisation varies from pseudo or proto state, to guerrilla warfare or insurgency actions, and finally to bona fide terrorist groups.⁵⁴ A systemic approach to defeating terrorism must address the larger system of violent opposition.

Traditionally terrorism per se has been considered incapable of achieving organisational goals.⁵⁵ However, some commentators dispute this claim, arguing that terrorism has been more successful than is generally conceded, particularly when combined with other forms of violent activities such as guerrilla warfare.⁵⁶ Terrorism's motivation is less concerned with the

distinctions between guerrilla warfare, terrorism and insurgency, or between the achievement of strategic and tactical objectives, than with the perception that armed resistance can be successful. As terrorism academic Martha Crenshaw asserts, 'it is the image of success that recommends terrorism to groups who identify with the innovator.'⁵⁷ So while, academically, there remains a tendency to categorise the types of opposition (insurgency or terrorism) and responses (security assistance or counter-terrorism), in practical terms these comprise a single interrelated system.

This interdependent opposition system is a highly complex network that extends into the non-physical space and includes a multitude of other actors including nation states, criminal organisations, logistics organisations and others. These nation states and criminal organisations may have informal or formal ties to the 'terrorist' organisation (state-sponsored terrorism or proxy warfare or the intersection of international drug trafficking organisations and groups such as the FARC and the Taliban). The interactions (or flows) between nodes can be physical (weapons, personnel) or non-physical (ideology, motivation, finances, tacit information). Disrupting these flows and nodes must be part of a systemic approach to degrading the effectiveness of terrorism and consequently the appeal of terrorism as a method. So, while critics of deterrence theory state that it is unclear how and where to target threats, a systemic view that includes other nation states and pseudo states provides both a means of communication and physical assets that can be targeted (physically or non-physically). While new terrorism may change the power dynamic between states and non-states, where interdependence exists it should be exploited for the purposes of deterrence. In addition, terrorists 'scarcely ever, if indeed ever, exist and operate in isolation from organizations, and these organizations rarely in isolation from states; and deterrence can be brought to bear by that route.'⁵⁸

Where state sponsors of terrorism are susceptible to punitive deterrence measures and general diplomacy, addressing passive state sponsorship of terrorism is far less straightforward. Passive state sponsorship is significantly more common than active sponsorship and involves failed or fragile states, or states unable to govern their own borders. As Byman argues, 'the greatest contribution a state can make to a terrorist cause is by not acting. A border not policed, a blind eye turned to fundraising, or even toleration of recruitment, all help terrorists build their organizations and survive.'⁵⁹ Further, while there is a lower utility for military forces in Western democracies

(pre-crisis), there is broad utility for military actions degrading terrorist systems and positively influencing other nation states (including assurance, deterrence, co-option and capacity building).

Efforts pre-crisis serve to reassure nation states, increase indigenous capacity, reduce the effects of attacks, and set the preconditions for larger military contributions should the security situation deteriorate. In addition, as a nation moves closer to crisis, the relative role of the military increases and the domestic security apparatus, such as the police force, becomes increasingly militaristic. Relationships established pre-crisis will be critical to enable effective actions to deny the ongoing benefits of terrorism.

In addition to developing models for collective influence, efforts to increase influence will require the development of additional skills beyond the scope of traditional counter-terrorism capabilities. Military assistance contributes to strategy through 'its ability to do something for national defense where other, more direct means would accomplish virtually nothing.'⁶⁰ So where there is a risk that deterrence policy will become self-defeating, appropriate indirect capabilities, supported by doctrine and policy, may protect national interests in a way that direct military activities cannot.

Inhibiting innovation within violent non-state actor networks

A number of existing programs seek to inhibit the spread of knowledge necessary for the production of chemical or biological weapons (such as the PSI or G-8 Global Partnership) and prevent the spread of innovative technology (UNSCR 1540 and the AG). However, there appears to be less focus on actions addressing the organisational characteristics of the groups seeking to incorporate that knowledge — the demand side of proliferation. Disrupting innovation in these organisations may reinforce contemporary non-proliferation efforts.

The difficulty of producing a truly catastrophic chemical or biological weapon is perhaps demonstrated by the lack of successful employment of such weapons even among those with the motivation and financial resources to do so. While it is tempting to view technological diffusion to terrorist groups as inevitable, the ability and motivation for an organisation to introduce new methods or tools is dependent on a variety of organisational and

social factors. These factors can be increasingly prohibitive to innovation among networks that are attempting to remain undetected by security and intelligence forces. These dichotomous factors (such as openness to new ideas despite concerns over security) provide an avenue for a persistent and non-traditional approach to WMD/E prevention.

While truly innovative terrorist capabilities are rare, part of the challenge of WMD/E prevention is the ability to detect when a group or individual intends to pursue a course of action that could produce catastrophic consequences.⁶¹ Eleven salient factors have been described as affecting terrorist innovation: ‘the role of ideology and strategy, dynamics of the struggle, countermeasures, targeting logic, attachment to the weaponry/innovation, group dynamics, relationship with other organizations, resources, openness to new ideas, durability, nature of the technology.’⁶²

Organisational proclivity towards innovative terrorism can be combined with the broader predictors of terrorism. While terrorism may appear random from a victim perspective, terrorist events are a manifestation of a broader situation and strategy. Further, its causes can be attributed to ‘concrete grievances amongst an identifiable subgroup ... lack of opportunity for political participation’ and dissatisfaction with incumbent elites.⁶³ Given that terrorism events are part of a broader strategy, catastrophic terrorism is also contained within a larger set of terrorist activities that have a specific set of circumstances. The requirements for this escalation paradigm are illustrated in Figure 1.

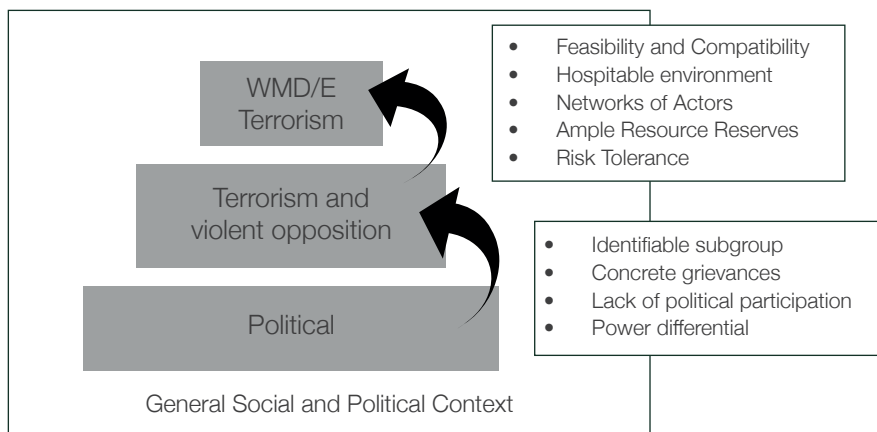


Figure 1: Escalation from political dissent to WMD/E terrorism⁶⁴

Among terrorist groups, indicators of proclivity to WMD/E terrorism are signalled by a number of correlating factors including group size, history of violent attacks, previous statements demonising target audiences, and history of chemical weapon production or use.⁶⁵ The preconditions for WME innovation provide a basis both for threat assessment and for disrupting the innovation process.⁶⁶ Specific strategies may include disrupting tacit knowledge exchange, addressing ungoverned spaces and isolating charismatic or influential leadership. Threat assessment models must include the preconditions for innovation, combined with indicators of WMD/E development.

Disrupting innovation through information activities

Where traditional counter-WMD activities have focussed on the supply side of the supply/demand equation, there has been a lack of coherent effort aimed at addressing the demand for catastrophic weapons. Part of the appeal of WMD to would-be terrorists stems from an inflated and almost irrational fear of their employment — the Hollywoodesque ‘nightmare’ of WMD paired with the unrestrained aspirations of terrorism. This catastrophic narrative is underpinned by the political use of WMD as an umbrella term to refer to a wide range of threats to influence the target audience. Information activities can address the perceived cost benefits of catastrophic terrorism.

It is clear that rationality is susceptible to influence by controlling the information presented and by exploiting uncertainty over future events. A decision to pursue a course of action involves ‘guesses about future consequences of current actions and guesses about future preferences for those consequences.’⁶⁷ Subjective preferences and consequences are affected by uncertainty, complexity, imperfect information and imperfect decision-making processes. Information activities can influence opposition decision-making calculus by increasing the *perception* of attack costs, while decreasing the *perception* of attack benefits. Information activities include ‘shaping and influencing (at the strategic level); information operations (at the operational level); and inform and influence actions (at the tactical level).’⁶⁸

An effective information campaign as part of a broader influence campaign can contribute to the disruption of terrorist innovation. Information actions

can be developed to counter the existing narrative of the ease of WMD production and employment, influence those supporters who can be deterred, and discredit WMD/E as a method of attack. For example, Schelling believes Islamic terrorists can be deterred from the use of bio-weapons if convinced that the weapons will also infect and kill many Muslims in the Middle East.⁶⁹ Further specific opportunities may exist in degrading the value placed on tacit information and by isolating charismatic and influential leadership in terrorist groups. Information activities must be characterised by nuanced cultural and organisational understanding.

Social network analysis as a tool to disrupting information flows in dark networks

From an interdiction perspective, understanding the terrorist network's structure, function, culture and organisational goals is critical. In Iraq in 2003, Stanley McChrystal realised the shortcomings of mapping terrorist organisations via traditional hierarchies of commanders, lieutenants and foot soldiers. In contrast to previous wars, the enemy was agile: 'money, propaganda and information flowed at alarming rates, allowing for powerful, nimble coordination' with tactics changing almost simultaneously in different cities.⁷⁰

To overcome this perceived shortcoming, social network analysis has grown in influence and become a 'collection of theories and methods that assumes that the behaviour of actors (whether individuals, groups, or organizations) is profoundly affected by their ties to others and the networks in which they are embedded.'⁷¹ Social and trust networks are influential in demonstrating how disaggregated dark networks function. For example, it has been asserted that US detention facilities in Iraq assisted in the formation of ISIS.⁷²

Although social network analysis is most often regarded as useful in identifying the centrality of a network (which could be considered a proxy for leadership), it also has an important role in quantitatively identifying other social network functions such as clusters, liaison functionaries, and key personnel that enable networks to function.⁷³ Where traditional counter-leadership and counter-network operations tend to target strong ties within a network, in the context of innovation, weak ties may be more influential than strong ties. This is supported by research that has revealed that the

random removal of a weak tie within a network does more 'damage' than the removal of a strong link (the assertion arguing that strong links are easily replicated by other linkages within the strong network).⁷⁴ For innovation, weak ties act as information bridges to entirely 'new' resources (including information), whereas strong linkages tend to be more insular. In terms of adoption of innovation, it has been found across a number of studies that early adopters of controversial innovations are most likely to be marginal members of groups, whereas less controversial innovations (proven techniques) are more likely to be adopted by those central to a group.⁷⁵

Identifying personnel who enable innovation may rely on the discovery of 'weak ties'. This is supported by theoretical research in which destabilising activities have been applied against loosely aligned cellular structures using social network analysis techniques revealing that strategies addressing 'connections between agents are not sufficient. One needs to take into account properties such as knowledge and resource distribution.'⁷⁶ A campaign of disrupting innovation within a decentralised terrorist network may represent a significant departure from traditional counter-leadership operations.

Currently Australia is in a similar position to the US military.⁷⁷ Despite large quantities of available data, the ADF lacks the doctrine, terminology, training, risk assessment methodology, information systems and institutional knowledge to effectively inform military options using social network analysis. Social network analysis is generally considered synonymous with social networking software programs rather than with the quantitative tools that depict information flows. Education and doctrine must be institutionalised to leverage the tools available through social network analysis and to utilise its value in intelligence-led operations. Application of social network analysis-based destabilisation techniques must be developed through practical application, with destabilisation strategies driving information collection requirements.

Conclusion

The assumption underpinning existing proliferation controls is that a small number of states have the technology to pursue the production of WMDs and, by inference, the ability to control their dissemination. In the information age, and within the context of increased industrial applications for this

technology, this monopoly no longer exists and the threat from WMD/E is generally considered to be rising. This threat (associated with dual-use commodities, the attributes of new terrorism and broad strategic trends) must be considered within Defence's strategic planning. The various perceptions and definitions of WMD have created ambiguity over certain types of catastrophic weapons. A concept must be developed to mitigate the threat from WME and guide capability development efforts. While many of the base capabilities exist through Defence's role in counter-WMD, small changes to existing concepts will assist in disrupting the threat from WME. Some of these changes involve only a subtle shift in focus: from WMD equipment to the innovation process generally; from punitive deterrence to culturally informed influence; and from interdicting weapons to addressing terrorism preconditions. The ability to increase Defence's capacity to mitigate the rapidly evolving threat will depend on the establishment of relationships (internationally and domestically) with appropriate groups (such as academia, foreign security institutions, communities of interest, and technology companies).

The legacy paradigm inherited from counter-WMD efforts forms an effective basis for WMD/E prevention. The existing elements of counter-WMD (such as border control) should be retained in a future campaign with the integration of additional WMD/E prevention elements. The WMD/E 'ways' of horizon scanning and sensing (risk assessment), collective influence and disrupting innovation form an effective basis for integration into a single campaign. The means need to be integrated across the whole of government approach, via a renewed strategy similar to the 2005 Department of Foreign Affairs and Trade publication 'Weapons of Mass Destruction – Australia's Role in Fighting Proliferation: Practical Responses to New Challenges'. In the absence of a renewed publication, or additional guidance from the government, there are a number of areas organic to Defence that can assist in threat reduction. These changes do not necessarily detract from Defence's key tasks and in many cases will have broad utility across a number of Defence objectives.

The author

Major Raymond Lindsay is a serving Australian Army officer. He has completed numerous deployments to Afghanistan and in 2015 he was awarded the Chief of Army Scholarship to research weapons of mass effect. He is currently a student at Australian Command and Staff College.

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BOOK REVIEW

The French Army and the First World War by Elizabeth Greenhalgh

Cambridge University Press, Cambridge, 2014, 469pp

Reviewed by Brigadier Chris Roberts (retd)

In a conflict in which the French bore the greatest burden on the Western Front, the English-speaking historiography of the Great War includes few books that describe the French contribution. Naturally, Australia's focus on that conflict is predominantly Anglo-centric with a consequent nationalistic favouring of knowledge, depending on the author's allegiance within the British Commonwealth, and with little regard for the contribution of other nations. Most make only passing mention of the French Army's fighting — rare exceptions including Selwell Tyng's superb *The Campaign of the Marne* and Alastair Horne's acclaimed *The Price of Glory: Verdun 1916*. Similarly, sound English versions on the broader French contribution during the war are few and far between, among the best Smith, Audoin-Rouseau and Becker's *France and the Great War, 1914-1918*, Robert Doughty's outstanding *Pyrrhic Victory: French Strategy and Operations in the Great War*, and Elizabeth Greenhalgh's excellent *Foch in Command: The Forging of a First World War General*. All provide a welcome balance, bringing a broader perspective to accounts of the fighting that occurred during the terrible catastrophe that was the Great War.

Elizabeth Greenhalgh has established herself as a leading historian on the higher direction of the Great War and the French contribution to this. Her *Victory Through Coalition; Britain and France during the First World War* brings a new perspective to this subject, as distinct from the largely British focus Australians have been fed for years, while her *Foch in Command* provides a welcome balance to the military direction of Allied strategy and operations on the Western Front. Now she delivers another valuable contribution with *The French Army and The First World War*, a volume in the Cambridge University Press 'Armies of the Great War' series. Like Doughty's *Pyrrhic Victory*, Greenhalgh's work is pitched at the strategic and operational levels of the conflict. But, while Doughty largely confines his narrative and analysis to the military aspects, Greenhalgh paints on a wider canvas, venturing into other facets, particularly the political machinations behind the scenes, and offering analyses of the French Army in aspects not normally addressed such as morale, armaments, discipline and the famous mutiny of 1917.

Commencing with a study of the pre-war army, set within the fraught political tensions of the period, and the relationships with Russia, Britain and Germany, the book is divided into 10 chapters. Eight address the war years from 1914 to 1918. While 1914, 1915 and 1916 are each covered in one chapter, the last two years each have two, with a penultimate chapter covering the last month of hostilities, the armistice and demobilisation. The book concludes with a wide-ranging overview of the army and associated issues during the war years, and their impact on France in the aftermath of the war.

This is not simply another narrative primarily devoted to the French Army's operations, but considers them against a broader background. Chronological in its structure, Greenhalgh weaves her story around the principal offensives year by year, placing her discussion and observations in the context of the broader political issues, infighting within the French higher command, morale and discipline in the army, armaments, social issues and the impact of international considerations, operational results and the enormous casualties suffered at the front. Throughout, the development of new tactics, the need for new weapons and organisations to meet the challenges confronting the army are discussed, together with an analysis and assessment of the offensives undertaken, highlighting the army's strengths, weaknesses, failures and achievements. Thus the reader is

provided with a rich tapestry not only of French strategy and operations, and organisational and tactical developments, but also the influences that drove them. In doing so, Greenhalgh brings some contentious issues into perspective that are rather different from those of the perceived wisdom handed down by less well researched tomes. For example, her findings on the mutiny of 1917 are surprising, and suggest the discontent among the troops was not as widespread as previously thought, and that their actions were motivated by other matters, rather than just simply the oft-quoted disillusionment with the Nivelle Offensive. Importantly, she points out that the disobedience occurred *after* Nivelle was replaced as Commander-in-Chief by Petain. Moreover, having already discussed morale, discontent and executions in 1914 and 1915, the perception of the mutiny and its subsequent executions in previous accounts and the popular culture appear overblown.

While the main focus of operations is on the major offensives and battles on the Western Front, the ferocity of some of the lesser known actions such as the bitter and futile fighting over prominent peaks in the Vosges and sectors further north are briefly discussed, demonstrating that even in quiet sectors the fighting was brutal and costly. Nor is this study confined to the Western Front; French participation in the ill-fated Gallipoli campaign and operations in Africa, Salonika and Italy are addressed, highlighting the wider political realities when determining strategy and operational commitments.

But what makes this work particularly useful are the discussions of matters percolating behind the front: the inter-allied relations and considerations, the political machinations, the personalities within the French Army and their influences on events — the underlying factors that drive strategy and operations that are often forgotten or glossed over. Nowhere is this more evident than in the appointment of Nivelle and his ill-fated and universally condemned offensive of 1917. While acknowledging that Nivelle failed to realise his expectations and that his tenure as Commander-in-Chief was a disaster, Greenhalgh is less critical of the man than others, pointing out the difficulties under which he worked, some self-imposed, but others initiated elsewhere: the political interference and pressure he experienced, the difficulties with the British Commander-in-Chief Haig, the open opposition to his plan within the French Army hierarchy, and being continually undermined by his subordinates, particularly Petain. While his offensive did not remotely achieve the successes he trumpeted, Greenhalgh highlights that it was more

successful and less costly than Joffre's earlier Champagne Offensive. The 'disaster' was more in the perception of the politicians than in the reality of events — it was yet another costly battle achieving limited results in a long line of unfulfilled French expectations. Yet again, Greenhalgh brings a perspective to a particular subject that other authors have failed to do.

Numerous tables covering diverse issues such as military rates of pay, casualties and losses during the first 18 months of the war, shell and weapon production, military organisations, density of guns, and comparisons of artillery in 1914 and 1918 support the narrative. A major criticism of most military histories is the absence of good and detailed maps, an essential item if the reader is to easily follow the details of the narrative. This book is no exception and, while 15 maps are provided, they are generally large scale, providing an overview of the offensive each depicts, making it difficult to follow the detailed operational events described and unfortunately detracting from an otherwise excellent book. I hope that, in future, Cambridge University Press and other publishers will recognise the value of good maps in plentiful supply to support operational narratives.

Overall, this is a fine, frank and comprehensive study of the army that bore the brunt of the fighting on the Western Front, particularly in the first three years of the war, the major battles it undertook, and the influences that directed its strategy and operations. Rich in information and insight, it is a welcome addition to the English language historiography of the Great War, providing a thoughtful and perceptive view of the French Army's participation and performance in the catastrophe that engulfed Europe a century ago.

BOOK REVIEW

The Fall of the Ottomans: The Great War in the Middle East

by Eugene Rogan, Basic Books, New York, 2015,
485pp

Reviewed by Dr William Westerman, Teaching Fellow, Military & Defence Studies Program, Australian Command & Staff College

With much of the attention of the First World War focused on the Western Front (both when it was being waged and ever since), it is a welcome change to explore a different theatre of that immense conflict. To the Entente powers, the war in the Middle East served simply to divert both their attention and, importantly, their resources, but to the Ottoman Empire it was fundamentally about survival. From 1914 to 1918 they defended their empire against multiple invasions and uprisings; by the end of the war, however, the perpetually 'sick man of Europe' had finally succumbed to his affliction.

Eugene Rogan's *The Fall of the Ottomans: The Great War in the Middle East* tells this story and in so doing enhances the modern understanding of the global dimensions of the First World War. Setting the stage early with the rise of the Young Turks and the prelude of wars fought prior to 1914, Rogan covers the war in the Middle East with a sweeping scope, following the various campaigns fought on and within the over 7500 miles of borders

and coastlines the Ottoman Army was required to defend, culminating with defeat in 1918 and dissolution of the empire in the post-war period. The large narrative that Rogan crafts gives the reader a sense of just how vast and at times complex this part of the First World War really was.

To Australia, the most familiar event in this theatre was the 1915 Gallipoli campaign. Rogan enlivens this well-worn story by placing it in a wider perspective. He observes that the decision to force the Dardanelles and then to invade Gallipoli occurred against the backdrop of Russian success at Sarikamis, the British capture and defence of Basra and the successful defence of the Suez Canal (all of which played out between December 1914 and April 1915). These Ottoman defeats created a poor impression of the Ottoman Army and gave British and French war planners optimism that a decisive blow against the empire could be struck through the Dardanelles.

Other familiar stories, such as the actions of enigmatic British officer Captain T.E. Lawrence, are discussed and given the appropriate contextual background (Rogan appears careful not to give too much weight to the 'Lawrence of Arabia' narrative). *The Fall of the Ottomans* also covers events that may have languished in the collective memory of Australian readers, or those that exist in the veiled periphery of imperial memory, such as the Siege of Kut-al-Amara in late 1915 and early 1916, or the capture of Baghdad in 1917.

An enjoyable aspect of the book is Rogan's highlighting of events and entire campaigns which are not often covered in Anglo-centric studies of the Middle East during the Great War, such as the Russian Army's Caucasus campaigns (and particularly the very significant capture of Erzurum in early 1916), or the early stages of the Arab Revolt in the Hijaz in late 1916. These are reinforced by one of the strengths of *The Fall of the Ottomans*, namely the use of Ottoman and Arab sources, giving voice to a wide variety of those within the Ottoman Empire who are usually silent in Western histories.

The Fall of the Ottomans also touches on several issues that resonate a century later, such as the prospect of deliberately inciting jihad across the Muslim world against the European colonial powers. Likewise the book describes the shaping of the post-war Middle East through the Sykes-Picot Agreement, the Balfour Declaration, and the arrangement with Hashemite Arab leader Sharif Husayn for control over sections of the Ottoman Empire in return for taking up arms against them.

Rogan is not a military historian in the sense that he does not provide a detailed tactical analysis of how the war in the Middle East was fought; the canvas is simply too large and the time period too long to engage thoroughly with smaller details. This is a narrative that exists in the operational, strategic and geopolitical spheres, and therein lies its great advantage. In zooming out from Anzac Cove or Beersheba, the reader is shown a wider story, and actions assume new context and new importance, highlighting the complexity of the conflict in which Australian soldiers were involved. In addition to providing a highly satisfying account of the First World War in the Middle East, *The Fall of the Ottomans* points an Australian reader to the realisation of just how peripheral the Australian involvement was for most of the war. For anyone who seeks to understand the wider context, this is an excellent resource.

BOOK REVIEW

To Kokoda

by Nicholas Anderson —

Australian Army Campaigns Series 14

Reviewed by Wing Commander Mark Smith (RAAF Standby Reserve)

The Kokoda campaign ranks second to the Gallipoli campaign in the national psyche and also probably in the number of Australian military history books devoted to a single campaign. With the approach of the 75th anniversary of the Kokoda campaign in 2017, there are likely to be more dissertations published and the myth versus reality debate of this particular campaign will continue.

To Kokoda is the fourteenth volume in the Australian Army Campaign Series and, judging from the Army Historian's series introduction, well meets its criteria. The author, Nicholas Anderson, has drawn from the large number of previous publications, all listed in the bibliography, to create a succinct and very readable account of the campaign in 225 pages. The text is very well supported by maps of the individual battles, a range of photos — some quite well known and others less so — and both the Australian and Japanese order of battle. Of particular interest are the recent photographs of key terrain taken by members of the walk on the Kokoda track that the author completed in 2012. As with the other volumes of this series, the use of sidebars complements the text.

The author has paid particular attention to aspects of the difficulties of command down to sub-battalion level highlighting that the lack of effective and timely communications — caused by difficult terrain, poor radios and intermittent telephone lines — led to units positioned out of place and the consequent confusion when rapid repositioning was required. While most examples describe in sufficient detail the cause and effect of the poor communications, two examples stand out as lacking explanation for the action undertaken by the units involved. These were the apparent self-initiated repositioning of a 53rd Battalion platoon, leaving an important track junction near Efogi unguarded (p. 89) and the failure of the 2/1st Pioneers to move forward along the track (p. 102).

While Anderson displays tenacity, there is a level of caution evident suggesting that the author is not quite ready to dismiss all the ‘myths and legends’ that have surrounded Kokoda. For example, the inclusion of legendary events such as Lieutenant Colonel Ralph Honner’s comments to Captain Merrit while shaving adds ‘colour’ to the book. Fortunately, the glaring myths of the past, particularly the mythical imbalance in opposing forces, are put to one side, supporting some of the recent and more factual studies of the campaign. The author leaves no doubt about his attitude towards the renditions of Kokoda presented by ‘popular’ media personalities (p. 212). Anderson raises some of the incompatibilities and differences between the *Official History*, various brigade and battalion diaries and other personal accounts and offers only limited explanations — most likely due to the limited space available in the book. This should not be interpreted as a negative as it may well point future historians to more detailed research. He is not afraid to question points and arguments raised by other historians, but may have been a little disingenuous towards Peter Williams, author of the 2012 publication *The Kokoda Campaign 1942 — Myth and Reality*, contending that Williams’ explanation that the cautious advance of the Japanese 2/144th Battalion on Aloa was due to the 53rd Battalion’s fighting performance was implausible as Williams had mistaken the dates (p. 59).

This is Anderson’s first book and a very worthy addition to the Australian Army Campaign Series. *To Kokoda* is recommended to anyone with an interest in the campaign, particularly as a first book to introduce newcomers to this most gruelling operation.

BOOK REVIEW

Australia and the Vietnam War

by Peter Edwards

Reviewed by Wing Commander Mark Smith (RAAF Standby Reserve)

The year 2015 saw a number of commemorations of significant military events culminating in the April commemoration of the centenary of the ANZAC landings at Gallipoli. The year 2015 was also the 200th anniversary of Wellington's victory at the Battle of Waterloo. Lesser known, and largely overlooked by most Australians, were the 50th anniversaries of the deployments of two Australian battalions to ongoing actions in South-East Asia. In January 1965, the Australian government sent an infantry battalion to Borneo to support British efforts in Malaya against Indonesian incursions. Then, in April 1965, the government announced that the 1st Battalion, Royal Australian Regiment, would be deployed to South Vietnam. The events throughout South-East Asia over the 20 years leading up to these deployments and their subsequent conduct form the subject of *Australia and the Vietnam War*.

C.E.W. Bean's *Anzac to Amiens* and Gavin Long's *The Six Years War* were the single, stand-alone companion volumes to the *Official Histories* of Australia's involvement in the First and Second World Wars respectively, of which the authors were the official historians and general editors. This tradition has continued with the release of *Australia and the Vietnam War*

written by Peter Edwards, who was the official historian and general editor of the nine-volume series, *The Official History of Australia's Involvement in Southeast Asian Conflicts 1948–1975*.

Australia and the Vietnam War gives the reader a concise and well-structured introduction to the complexity of decolonisation throughout South-East Asia following the Second World War and the influence of the Cold War on the region, particularly the spread of communism, both real and threatened. During this period, the respective Australian governments were developing more independent foreign and defence policies that were inextricably linked to and influenced by events in the region. For a large portion of the period, the Australian government was dealing with two major powers, the United Kingdom and the United States of America, and their disparate views of regional stability pushed Australia into participating in two distinct conflicts simultaneously. While the focus of the book is the Vietnam War, it also covers the lesser know Malayan Emergency and the Confrontation with Indonesia.

Not being an actual volume of the *Official History* has allowed the author to examine the success of Australia's foreign and defence policies of the era with the last chapter answering some questions posed in the preface. In particular the 'domino theory', the rationale underpinning allied intervention in the region, is examined to see whether it was a valid premise and how effective foreign intervention was in stabilising the region.

The author draws heavily on the nine volumes of the *Official History* as the primary source. This provides the reader with the references to delve further into particular aspects of the period.

I highly recommend *Australia and the Vietnam War* to any student of Australia's foreign and defence policy post-Second World War. It should be essential reading for those beginning their journey into the history of Australia's involvement in the Vietnam War.

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