



# Australian Defence Force JOURNAL

## Journal of the Australian Profession of Arms

Australia's Maritime Strategy

Vice Admiral Ray Griggs, AO, CSC, RAN, Chief of Navy

The Army as an Instrument of National Power

Lieutenant General David Morrison, AO, Chief of Army

The Role of the RAAF in Australia's Security

Air Marshal Geoff Brown, AO, Chief of Air Force

Reframing the Defence Discourse: Australia's 'black swan' and its implications for preparedness and mobilisation

Lieutenant Colonel Andrew Stevens, Australian Army

Dr Haroro J. Ingram, Department of Defence (and ANU)

Counterinsurgency Lessons from the North-West Frontier

Colonel Graeme Sligo, Australian Army

The Expectations of Strategic Air Power

Squadron Leader Adrian Reeve, RAAF

The US Submarine Campaign in the Pacific, 1941-45

Brigadier Mick Ryan, AM, Australian Army

Sea Control in Amphibious Operations

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Japan's Energy Security Challenges

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Modern Expeditionary Warfare

Major David Beaumont, Australian Army

Refocusing the Australia-PNG Relationship

Lieutenant Colonel Stephen Blair, Australian Army

Operating in a Degraded Information Environment

Lieutenant Colonel Michael Scott, Australian Army

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## Chairman's comments

Welcome to Issue No. 190 of the *Australian Defence Force Journal*.

Given the pending release of the 2013 Defence White Paper, the Board decided to publish a further selection of related articles in this issue, even though it meant again deferring some very worthwhile articles and publishing several others via the Australian Defence College's website in lieu (see <[http://www.defence.gov.au/adf/publications/Commanders\\_Papers.html](http://www.defence.gov.au/adf/publications/Commanders_Papers.html)>).

The first three articles are recent speeches by the Service Chiefs, which we gratefully reprint with their permission. All three are pitched at the strategic/doctrinal level and expound the views of the Service Chiefs on the challenges and opportunities confronting the ADF—and Australia more broadly—in the 'Asian century'.

The following article, by Lieutenant Colonel Andrew Stevens and Dr Haroro Ingram, addresses the topical issue of Defence's *raison d'être*, contending that Defence's 'black swan'—a defence of Australia campaign against conventional military forces—should continue to be the fundamental driver of all preparedness activities.

The remaining eight articles cover a range of topics. Three of them—by Lieutenant Commander Josh Wilson, Major David Beaumont and Squadron Leader Adrian Reeve—are highly-graded papers completed while students at last year's Australian Command and Staff College course. They provide an interesting juxtaposition to the speeches by the Service Chiefs. They are also published as encouragement to more junior practitioners to contribute to the 'contest of ideas', as flagged in my introductory comments to Issue No. 189.

Two other articles very usefully draw lessons for contemporary operations from historical analyses. The first, by Colonel Graeme Sligo, has been awarded the 'best article' prize. It examines the counterinsurgency lessons that may be drawn from British operations on the North-West Frontier, along the border of Afghanistan and what is now Pakistan, from 1849 to 1947. The second, by Brigadier Mick Ryan, examines the US submarine campaign in the Pacific during World War 2, concluding that the campaign contributed decisively to US strategic aims, with inherent lessons for the role of submarines in current maritime strategy.

Linda McCann, a student on last year's Centre for Defence and Strategic Studies course at the Australian Defence College, then examines Japan's energy security challenges in the aftermath of the March 2011 tsunami, highlighting some potentially important implications for broader regional security. With a similar geo-strategic focus, but closer to home, Lieutenant Colonel Stephen Blair argues that Australia needs to enhance its longstanding bilateral relationship with PNG, to include a heightened role for the ADF.

Finally, and very topically given the recent spate of media reporting on world-wide cyber attacks, Lieutenant Colonel Michael Scott asserts that the ADF and allied militaries must urgently reassess their capability to operate in a degraded information environment, contending that current policy fails to address the possibility that an adversary may negate the information advantage of Australia and its allies.

As usual, we have a selection of book reviews, with an additional number in the on-line version. We remain keen to hear from readers wishing to join the list of reviewers, who are sent books provided to the Editor by publishers. If you are interested, please provide your contact details and area of interest to the Editor at [publications@defence.adc.edu.au](mailto:publications@defence.adc.edu.au)

Our July/August 2013 issue will be a 'general' issue and contributions should be submitted to the Editor, at the email address above, by mid April. Submission guidelines are on the *Journal* website (see [www.adfjournal.adc.edu.au](http://www.adfjournal.adc.edu.au)).

In closing, I would take this opportunity to thank Lieutenant Colonel Luke Carroll for his much-appreciated work on the Board over the past 10 years, which in recent years has included representing the Reserves. His successor is Brigadier Iain Spence, RFD, formerly Commander 8 Brigade and Director General Reserves-Army, and currently Director General SUAKIN (the Government-endorsed reform project to deliver a more flexible and contemporary ADF employment model) in VCDF Group.

I hope you enjoy this edition and I would encourage your contribution to future issues.

**Craig Orme, AM, CSC**  
Major General  
Commander, Australian Defence College  
Chairman of the Australian Defence Force Journal Board

# Australia's Maritime Strategy<sup>1</sup>

Vice Admiral Ray Griggs, AO, CSC, RAN, Chief of Navy

I am convinced that Australia needs to pursue a maritime strategy. I am also convinced that the Chief of Army was on the money when he said in his opening address at the Land Warfare Conference on 31 October 2012 that Australia needs its ADF more than it needs its Navy, Army or its Air Force. That is certainly my underlying position and I know it is the position of the senior leadership of the ADF.

That said, the ADF does need those single Services and the individual warfighting capabilities they bring to the joint fight. But I first want to take a step back from the strategy for a moment as my real concern is that our strategic discourse is muddled in a maritime sense. I want to talk about what thinking underpins, or should underpin, a maritime strategy. My premise is that most of our academic strategic discourse simply has not hoisted in some key issues about our contemporary geo-strategic circumstances.

The map at Figure 1 (overleaf) illustrates Australia's maritime sovereignty and sovereign rights—and those of our neighbours—through which our key transport and communication lanes pass. It is a slightly different way of looking at the ocean, recognising the areas over which Australia and our immediate neighbours have sovereignty and the areas where sovereign rights can be exercised. The two of course are very different concepts—and I suspect for many, this is not the way they are used to looking at the sea.

The world's oceans are not a homogenous mass and there are many nuances embedded in this map that can significantly impact our ability to operate if we do not understand them. I think for the ADF to have an effective maritime strategy, we need to look at things differently and truly understand all dimensions of our maritime environment, including its terrain—and, increasingly, the management of movement and communications on that terrain.

I have been a little intrigued as to why the term 'joint maritime strategy' has come into vogue? I am not sure why we need to qualify the term 'maritime strategy' by putting the word joint in front of it. While we may lack an agreed doctrinal definition, one thing all the various definitions have at their core is that maritime strategy is inherently joint.

If we need to qualify the term maritime strategy at all, I think we would gain most benefit by referring to it as an 'integrated maritime strategy'. 'Integrated' because our strategy must, in the first instance, draw on all the Australian Defence Organisation's capabilities, not just those of the ADF. Furthermore, a maritime strategy must be integrated with other national capabilities and clearly draw on all instruments of national power.

I think one of the biggest challenges in articulating and embedding the notion of a maritime strategy in the general consciousness is to shake off the thought that a maritime strategy is all about the Navy. It falls to me, I think, as the head of the Navy to consistently and emphatically make the point that this is not the case—at least no one can doubt my motives for making such a pronouncement. If we don't get that message through, then it is inevitable that people will ask the question 'why do you we need a potent land force in a maritime strategy'?





But in examining the notion of a maritime strategy, we really need to understand the strength of the foundations that our strategic discourse is built on. Sadly for us, those foundations are like old wooden piles that hold up a wharf. They support the edifice most of the time but fail when they get the slightest bump or when subjected to a rigorous engineering inspection. A big problem for us in thinking through these issues is that our national security discourse has been overwhelmingly land-centric—and please be assured I do not use this term in a pejorative sense.

In some ways this is inevitable. Most human activity takes place ashore and that is where decisions are made. But our national security debate has been a largely binary discussion between the disciples of the ‘continental’ and the ‘expeditionary’ schools of thought. This is a discussion which skews the overall debate and ignores some important changes to our circumstances. As Michael Wesley said recently, what Australia needs is a ‘well developed maritime imagination’.<sup>2</sup>

The very notion that we have a term such as ‘the sea-air gap’ in regular use and the fact that the concept has been sustained, at least in academic discourse, for many years now is concerning. The term implies that this area of mixed sovereignty and critical communications routes is both featureless and a valueless space. The Chief of Army’s description of a ‘sea-air-land bridge’, used recently in an address to the National Security Institute,<sup>3</sup> at least brings the notions of connectivity and value into play.

I have suggested in the past that we need a genuine maritime school of thought to provide the intellectual basis for a maritime strategy.<sup>4</sup> A school of strategic thought relevant to Australia should have an appreciation of our geographic, economic and diplomatic situation; it should include an appreciation of our interests, relative strengths and weakness; and it must be framed by a clear statement of our national aims—and the manner in which we wish to pursue them. Australian strategic thinking often starts with the fact that we are an island continent and that our international trade is overwhelmingly maritime. But it often does not go much further than that. In fact, it is a bit like the mandatory foreword to a document—quickly read and then never considered again.

In framing a maritime school of thought, there are a few things that must be recognised. Firstly, it must recognise the sheer scale of our sovereignty and the area where we can exercise sovereign rights. It must recognise the increased pervasiveness of maritime trade and our national dependence on it for our ongoing prosperity. It must recognise the increased value of activity in our maritime environment, be it oil and gas installations, alternative energy generation or the value of maritime biodiversity, reflected in both tourism and food security, particularly the value of farmed and wild fish stocks.

It must also recognise that our terms of trade play a significant role in the growth of our real gross national income. But it must also recognise the fundamental vulnerabilities that our geo-strategic situation exposes us to in such a highly-interconnected and just-in-time economic system. Finally, it also must recognise the importance of collaboration and cooperation in keeping our global maritime trading system free and open.

No single maritime-focused force can achieve this mission, there must be cooperative arrangements and contributions across the whole system. And, of course, this mission cannot be achieved solely with the military instrument, as the ‘Australia in the Asian Century’ White Paper reinforces.<sup>5</sup> Importantly, no school of thought should be reverse-engineered to prop up existing force structures or used as a crutch to justify reductions when times are tight. What

does this mean for a maritime strategy? I think the first thing to recognise is that our economic centre of gravity is not the resources in and on the land, nor the manufacturing capacity of our industry. It has always been our ability to trade, the importance of getting imports in—most obviously, in a strategic sense, fuel—and, critically, exports out.

That gives the ADF a central role in a crucial national mission, the protection of our ability to trade, the very thing that underpins our national prosperity. This is a mission that starts at home with port and critical infrastructure defence but equally involves key choke points and shipping lanes throughout the end-to-end global maritime trading system. It means the protection of critical offshore infrastructure which, in the future, may exist up to 350 nautical miles from our shores, let alone sovereign territory such as our island territories.

Militarily, it means we need an ADF that has both reach and endurance. It is crucial, for example, that we have frigates and submarines that can be operated and sustained where they need to in this system, that we have intelligence, surveillance and reconnaissance assets that can do likewise, and that we have the ability to deploy and sustain credible and potent land forces to support the broader national objectives. In my potentially-biased view, the 2009 Defence White Paper proposed a balanced force structure to deliver these very attributes. Minister Smith, at a speech to the Lowy Institute in August 2012, reaffirmed the Government's commitment to delivering the core capabilities of that balanced force structure.<sup>6</sup> From any read of the White Paper, it is clear that a potent land force is part of that balance.

A key conclusion for me from appreciating Australia's national strategic circumstances is that Australia's strategic centre of gravity has a significantly larger maritime component than most have envisaged in the past. Given many of the factors I have mentioned, I suggest that decisive outcomes in a campaign against Australia can be achieved by effects applied at sea—and not necessarily ashore and not necessarily proximate to the Australian continent. Our society and economy simply cannot function if our fixed and mobile maritime infrastructure is targeted and disrupted. I am not saying that all the decisive outcomes will necessarily all be at sea; they won't. But I am saying that actions taken at sea now have far greater strategic significance than before, which I believe represents a fundamental shift from our previous thinking.

This is one of the reasons that the 2009 Defence White Paper took a different approach to the traditional 'defence of Australia' formula. While protecting our trade and contributing to the protection of sea lines of communication more broadly is fundamental to a maritime strategy, so too is the ability to project power across the spectrum of conflict. The two go hand-in-glove. There is no doubt that the maritime power-projection capabilities of the Landing Helicopter Dock (LHD) ships, when combined with other parts of the broader ADF force structure, will significantly enhance our ability to execute a maritime strategy.

I think Army's approach to the 'step function' increase in capability that the LHD brings to the ADF is terrific. The decision to orientate 2RAR toward amphibious operations has been one of the most important taken in recent years. Maritime power projection is a critical capability for the ADF, particularly in its regional role of contributing to the security and stability of the South Pacific and East Timor, so a dedicated focus on further developing the competencies needed is crucial.

At the very heart of maritime power projection is the delivery of force from the sea, be that through naval fires or the use and support of land forces in an amphibious activity. Power projection, however, does not always involve the use of military forces in a 'hard power' way. Humanitarian assistance, disaster relief and non-combatant evacuation operations are of

course a manifestation of the same foundation techniques and capabilities used for harder-edged power projection missions in achieving important non-combat missions. In the LHD, we will have the core of the ADF's hard and soft power projection capability.

As important as this capability will be for the ADF, and as big a challenge as it will be to exploit its full potential, I do think we run the risk of being somewhat consumed by it at the expense of the other individual domain warfighting disciplines that we must maintain to deliver the overall joint effect. In each domain, we have particular skills that we must excel in; we cannot afford to lose sight of that. Of course, we have followed a maritime strategy before. Recently, the Chief of Army correctly pointed out the defence of Australia in the Pacific campaign of World War 2 was a sophisticated maritime campaign.<sup>7</sup> I agree with him that there was no 'antipodean Jutland' that rescued us. But I think that the fascination with decisive battles that has kept naval thinkers occupied for centuries is actually misplaced when in fact it is the cumulative effects and benefits of sea control that are an important enabler in a maritime campaign.

Our first real foray in a maritime strategy, albeit nested within a broader empire approach, goes back to 1909 when, in one of the biggest acquisition decisions for the new Commonwealth Government, Australia decided to acquire its first Fleet Unit—and next year we will celebrate the centenary of its arrival in 1913 in Sydney Harbour at the 'International Fleet Review' and associated exercises. The Fleet Unit, consisting of a battle cruiser, light cruisers, destroyers and submarines, was one part of the force structure for what was then Australia's maritime defence strategy.

The Commonwealth Naval and Military Forces had three roles as part of this strategy. The first was port defence, a task undertaken jointly by the naval and military forces. Besides my enduring gratitude for the real estate it enabled Army to bequeath to Navy, I think this aspect should not lightly be forgotten. Vital asset protection, as we would now understand it, is a crucial element to national defence as it is an important part of maintaining our ability to trade. The complexity of that task, particularly as our maritime infrastructure ventures further and further into our offshore economic zones, will only increase. Second was regional security, with the Australian Naval and Military Expeditionary Force an early example of what we would now understand as the 'joint force in being'. The third role was alliance warfare through our contribution to empire defence.

In 1914, Australia carried out all three of these roles. We deterred the Germans from attacking our ports. We conducted regional security operations to deny them the ability to operate against us in the region in that oft forgotten part of World War 1 before the 25<sup>th</sup> of April 1915. Indeed, we did so with such success that the German Asiatic fleet left the theatre of operations entirely. And then, having secured our immediate environment, we were able to contribute to alliance operations further afield. So while we do not often think of it that way, Australia's strategy for the First World War was most definitely a maritime strategy—and we all know how essential the contribution of land forces was to its outcome.

I want to finish by going back to 1998 and quoting Michael Evans who wrote a most prescient piece about the role of the Army in a maritime concept of strategy. He wrote that 'only through understanding the joint nature of maritime strategy can the role of Australian land forces be fully appreciated'.<sup>8</sup> I would go further. Only through understanding the role of all the instruments of national power in a maritime strategy—and the opportunities, dependencies and vulnerabilities that come with it—can we continue to manage our security and ensure our prosperity. That is why I think we need a maritime school of strategic thought for Australia.

*Vice Admiral Griggs joined the Royal Australian Navy Reserve in 1978 and entered HMAS Creswell on a short service commission in 1979. During his seaman officer training, he served in HMAS Melbourne (II), HMAS Yarra (III) and HMAS Advance, before spending 12 months on loan to the Royal Navy in HMS Jersey. In late 1981, he was posted to HMAS Perth (II) and deployed to the northwest Indian Ocean following the Soviet invasion of Afghanistan. From 1983 to 1994, he served on HMA Ships Cessnock (II), Torrens, Tobruk, Jervis Bay and Perth.*

*Ashore, he served as the aide-de-camp to the Governor of Tasmania, two postings in the Navy's officer career management directorate, Staff Officer to the Commander Australian Patrol Boat Forces and as Deputy Director Military Strategy and Director Future Warfare. Between 1995 and 1997, he served as commissioning Executive Officer of HMAS Anzac. In October 2001, he assumed command of HMAS Arunta and deployed as part of Operation RELEX and to the Persian Gulf to enforce UN sanctions against Iraq.*

*In February 2006, he was appointed the Deputy Maritime (Fleet) Commander, until assuming the position of Director General Navy Strategic Policy and Futures in September 2007. In 2008, he was seconded to the 2009 Defence White Paper team. In early 2009, he attended the UK Higher Command and Staff Course and was subsequently promoted to Rear Admiral and appointed Deputy Head Strategic Reform and Governance. In May 2010, he assumed the role of Deputy Chief of Joint Operations. Admiral Griggs was promoted to Vice Admiral on 6 June 2011 and appointed Chief of Navy on 7 June 2011.*

## NOTES

1. This is an abridged version of a speech presented by Chief of Navy at the Land Warfare Conference on 31 October 2012.
2. Michael Wesley, 'The 2012 Vernon Parker Oration', delivered to the Australian Naval Institute at the Australian Defence College, Canberra, 14 August 2012: see <<http://www.lowyinstitute.org/publications/2012-vernon-parker-oration>> accessed 21 January 2013.
3. Chief of Army's address to the National Security Institute, 26 October 2012: see <<http://news.defence.gov.au/2012/10/26/chief-of-army-national-security-institute/>> accessed 21 January 2013.
4. See, for example, Vice Admiral Ray Griggs, Chief of Navy, 'The Navy's role in the Maritime Century', Address to the Lowy Institute, 17 August 2012: see: <[http://www.navy.gov.au/sites/default/files/documents/CN\\_Lowy\\_Speech\\_The\\_Navy\\_in\\_the\\_maritime\\_century\\_0.pdf](http://www.navy.gov.au/sites/default/files/documents/CN_Lowy_Speech_The_Navy_in_the_maritime_century_0.pdf)> accessed 21 January 2013.
5. See Australian Government, *Australia in the Asian Century: White Paper*, Department of Prime Minister and Cabinet: Canberra, October 2012: see <<http://asiancentury.dpmc.gov.au/white-paper>> accessed 21 January 2013.
6. Defence Minister Stephen Smith, MP, 'Paper presented to the Lowy Institute on the 2013 Defence White Paper', 9 August 2012: see <<http://www.lowyinstitute.org/publications/paper-presented-stephen-smith-mp-minister-defence-lowy-institute-2013-defence-white>> accessed 21 January 2013.
7. Chief of Army's address to the National Security Institute, October 2012.
8. Michael Evans, 'The role of the Australian Army in a maritime concept of strategy', Land Warfare Studies Centre, Working Paper No. 10, September 1998: see <[http://www.army.gov.au/Our-future/DARA/Our-publications/~/\\_media/Files/Our%20future/DARA%20Publications/Archived%20pubs/WPs/WP%20101%20Role%20of%20the%20Army%20in%20a%20Maritime%20Concept%20of%20Strategy.ashx](http://www.army.gov.au/Our-future/DARA/Our-publications/~/_media/Files/Our%20future/DARA%20Publications/Archived%20pubs/WPs/WP%20101%20Role%20of%20the%20Army%20in%20a%20Maritime%20Concept%20of%20Strategy.ashx)> accessed 21 January 2013.

# The Army as an Instrument of National Power<sup>1</sup>

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

As the Chief of Army, I deeply understand the respect and affection that Australians of all walks of life, and across all age groups, feel for their Army. That respect has been earned by the deeds of successive generations of Australian men and women who have put service before self at their nation's call in war and peace. However, I wish at times that the general public would understand better the complexity of the organisation and how important consistent funding and support for it is.

The Army is one of our most treasured and revered institutions but I want to talk about it as an instrument of national power and as a substantial piece of public infrastructure. It is a large and complex organisation with a very distinct culture and ethos but, despite its mastery of violence, it is a surprisingly fragile organism in some ways. Its capability must be painstakingly built up and nurtured, and this takes significant time and public funding. Yet its capability can be relinquished disturbingly rapidly if it is not carefully developed and sustained.

I have seen the capability and numerical strength of the Army fluctuate widely during the course of my three-decade plus career. But right now, the Army is in great shape. We have steadily rebuilt our capital base through prudent investment by this Government and the previous government since the East Timor crisis of 1999. We are far better equipped than we have been at anytime during my career and we are in the midst, budget constraints notwithstanding, of the most significant re-equipment program since the end of the Vietnam War.

Our soldiers have been exposed to sustained operations across the spectrum, from warfighting in lethal environments through to peacemaking and support, as well as pure humanitarian relief. Our ranks are seasoned by combat, and led by junior officers and NCOs with significant operational experience. This is an intangible asset that few armies in the world possess in such abundance. And, of course, I hope that that potential for the guarding of Australia's future is not squandered.

In short, I think we are about the right size and that our modernisation plan is sound, being derived from a sober assessment of both the changing character of war and the tectonic shifts in the global system associated with the rise of China and India, assertive Islamic militancy directed against the West, rapid population growth manifested as intensified urbanisation, a changing world climate and what seems to be a semi-permanent global economic crisis.

I'll spend a little time explaining how Army plans and implements its modernisation shortly but my most pressing concern as the current Chief is that our viable and appropriate plans will falter unless we make the correct strategic choices over the next three to five years. As I said, Army is a surprisingly fragile being unless its capability is developed in a deliberate and sustained manner. And the current straitened fiscal climate poses a risk to the Army's approved plan for development out to 2030, as encapsulated in the last White Paper. But let me make two things very clear. In a liberal democracy such as ours, the civil authority is supreme. And secondly, the ADF has always shouldered its share of the burden in finding savings to support the government-of-the-day in achieving the sound fiscal position on which our security ultimately rests.

As you have all undoubtedly observed in the media, this year's budget contained significant reductions in real Defence expenditure. There was some alarmist, and not entirely accurate, commentary likening the state of our Defence Force to that on the immediate eve of the Second World War, when we were in a parlous state. That analogy was based on a raw comparison of the share of the Defence budget as a portion of GDP in each era. However, it is not that simple. I can only speak for Army but we are in substantially better shape than we were in 1939 or, indeed, than we were when I first joined in 1979. And I also know that this is the consensus of my Navy and Air Force colleagues because of the significant and expensive remediation of all our Services that took place after the strategic shock of East Timor in 1999.

Moreover, the Government has ring-fenced vital force protection measures and continues to improve the level of force protection available to our deployed forces. In excess of \$1 billion has been spent on force protection in Afghanistan and in other operational areas. We have invested significantly in trying to counter the threat posed by improvised explosive devices. We have fielded new armoured vehicles to do just that in Afghanistan. We have upgraded our light armoured capability, our combat helmets, our pelvic protection system, our longer-range machine guns and we have upgraded, of course, our Bushmaster vehicles.

At the same time, as I said earlier, we are embarked on a very significant Defence Capability Program which has not been affected except in terms of time by the current decisions around budget. We are procuring Landing Helicopter Dock ships, the Growler capability, additional Bushmasters and, of course, additional C-17s. To me, the present climate facing the nation, and by implication its Defence Force, does not resemble the appeasement era of the 1930s so much as that of the 1970s and 1980s, when our Defence capability was allowed to deteriorate through chronic underinvestment, particularly in the Army.

Some of this was undertaken in the name of an anticipated 'peace dividend' in the wake of our withdrawal from Vietnam and the end of the Cold War but it was compounded, in my view, by some myopic strategic policy making, based on historical amnesia and a poor understanding of Australia's geography and alliance arrangements. I would hate to see the mistakes of that era repeated today, either in the name of misconceived strategy or economic stringency. But I can say with confidence that the Minister shares that sentiment. And he is on the public record as acknowledging what happened to the Army and the Defence Force after the Vietnam period and has made very categorical statements about maintaining the strength of the Defence Force.

I will now explain why implementing Army's currently-approved modernisation plan, called BEERSHEBA, actually represents both sound fiscal policy as well as strategic prudence. Good economics reinforces good strategy and produces sound public policy. And here is the core of my argument. In the wake of the Vietnam War, the Army was severely cut back. Moreover, the bitter taste of defeat in a foreign war prompted many well-intentioned people to conclude that we simply should not deploy our Army overseas again. An era of 'forward defence', we were assured, was a racist anachronism of the colonial era. Rather, we should rely on the perceived invulnerability of our continent's sea-air gap to the north to defy invaders. There is a superficial and simplistic elegance to this concept but it is based on poor history and even worse geography. Let me explain why.

Happily, Australia has only come under direct threat of invasion once in its history, when the Japanese sought to create their so-called 'Great East Asian Co-Prosperty Sphere' through conquest. Darwin was bombed, as were a number of other towns across our north. But the

Japanese understood Australia's geography better than our strategic analysts of the 1980s and 1990s. Before contemplating any serious operations against Australia, they knew that they needed to secure bases in the island chain to our north—hence their lodgements in Timor, Ambon, New Guinea and the Dutch East Indies. The Japanese were essentially defeated through the application of sophisticated coalition joint operations in the archipelagoes of the south-west Pacific. Guadalcanal was as significant in the so-called 'Battle for Australia' as were Kokoda, Gona and Milne Bay.

The lessons of both history and geography are explicit—we are not surrounded by a sea-air gap but rather live amid a densely-populated archipelago, which constitutes a sea-air 'land-bridge' to our northern approaches. On the only occasion we were directly threatened, under the hypotheses propagated by the advocates of continental defence, we relied on joint amphibious operations in the context of a coalition maritime strategy. We were not saved by a naval victory in an antipodean Jutland in the Arafura Sea—and it is folly to believe that we ever will be. No war in the global system established in 1648 has ever been decided purely at sea, or the air for that matter. Even British primacy, as contingent as it was on sea power, was based on maritime rather than naval strategy. In the words of Sir Edward Grey, a politician of the early 20<sup>th</sup> century, 'the British Army is a projectile fired by the Navy'.<sup>2</sup>

And so it was from Blenheim to D-Day. The most awesome battle fleet ever created, that of Jellicoe in 1916, was unable to bring the war against Germany to a decisive conclusion, despite the massive and unbalanced investment in the fleet at the expense of the British Army in the last decade of the 19<sup>th</sup> century and the years leading up to the First World War. And the long century that has followed in the wake of that conflict has been dominated in part by what Philip Bobbit, in *The Shield of Achilles*,<sup>3</sup> describes as the 'Long War', fought in one form or another through to the fall of Communist Europe, which has seen Australia choose to send its men and women to fight in other countries—Turkey, Egypt, France, PNG, Korea, Borneo, Malaya and Vietnam, to name but a few.

It is a practice that has most certainly been evident in this century with military operations conducted in Iraq, Timor, Afghanistan and the Solomons. And it begs a series of questions. Why did we invade Turkey in 1915? Or charge across the deserts of Beersheba in 1917? Why were our troops in France and Belgium in 1918? What brought them to Tobruk and El Alamein? Why has this approach been followed in this current decade? To some, these were merely examples of a recurring folly—a cultural cringe that induces us to engage in 'other people's wars'. Now, I accept the bona fides and good intentions of people who hold those views. And they make even more sense when our soldiers are fighting and dying far from home, and for causes that can appear opaque to the public mind.

However, I vigorously reject such theories as misguided, no matter how sincerely they are held. From our inception as a nation, I believe that we have made a series of calculated strategic choices, which ultimately can be seen to have conformed to a pattern of strategic practice coherent enough, in my view, to be given the description of a maritime strategy. I acknowledge, to a degree, the contested nature of that term but let me state the obvious: that throughout our history we have supported the global order secured by the hegemony of the dominant liberal democratic maritime power—in succession, Great Britain and the US.

We have done that to secure our vital national interests. Every fibre of our culture and pragmatic self-interest supported that choice. Indeed, its inevitability almost belies the employment of

the word 'choice'. Does anyone seriously contend that Australia's interests would have been served by the ascension to global dominance of Nazi Germany or Imperial Japan or the Soviet Union, or the radical Islamist theology espoused by al Qaeda?

Again, it is puzzling that those who insist on the deterministic nature of our geography can miss the point that we are a trading nation, deeply enmeshed in the global economy and reliant on a benign global order underwritten throughout our history by Britain and later the US. Every time the Australian Army has sent a contingent overseas, it has been at the behest of a democratically-elected Government, which has used this rational strategic calculus to calibrate the level of commitment and risk warranted. All our wars and all our peacekeeping operations have met this fundamental public interest test.

The real issue is not whether we need to be able to deploy military forces away from our shores. The issue is whether they are prepared adequately to do their jobs with an acceptable level risk. Too often, as the Australian scholar Dr Mike Evans has argued so well, members of the defence and security commentariat mouthed the rhetoric of continental defence, while the real world has required the nation to engage in military expeditions in pursuit of our strategic interests. Such 'Tyranny of Dissonance',<sup>4</sup> as Evans describes it, merely ensures we send poorly equipped troops into harm's way. And one need look no further than the training levels and equipment of our first deployed military contingents to both World Wars, Korea, Vietnam and, indeed, Timor in 1999 to have that proposition confirmed.

Fortunately, as matters stand today, I can place my hand on my heart and tell you that we are able to conduct operations that we have been assigned with decent prospects of success and commensurate, acceptable levels of risk to our troops. But we are approaching a point where doing more with less risks becoming a disregard for the ability of our forces to survive against credible peer competitors. No rational voice in this debate contends that we should benchmark our Army against the Taliban.

As our next White Paper approaches, I do hear again those discredited siren voices assuring us that after Afghanistan we are unlikely to send the Army away to another foreign entanglement; that what needs to happen is to mind our own business and concentrate on a strategy of denial across the air-sea gap. Well frankly, having been a part of INTERFET in 1999 as a senior soldier of this Army that had been seriously weakened by the proponents of such thinking, this fills me with concern.

This is historical amnesia that is breathtaking in its complacency. I resent having to defend the rationale for an Army from first principles all over again—but I will do so if I need to. And I make the point that this is not a conversation that I am having with either this Government or the alternate government. But rather with those who are offering, quite appropriately in a democratic country such as ours, their views about the strategic choices for Australia and its future. I simply choose as the Chief of the Army to add my voice to that debate.

I would also make the point that, apart from the weight of historical precedent that I have already cited, even the most optimistic assessments of our strategic environment over the life of the next White Paper suggest that we are living in an unstable region where the global balance of power may be contested. Like Yogi Behr, I find predictions fraught with peril, especially where they concern the future. I prefer the stance of the eminent scholar and strategist Colin S. Gray, who dismisses those who speak of 'the foreseeable future'.<sup>5</sup> Of its nature, the future is entirely unforeseeable.



We nearly learnt that to our great detriment when the East Timor crisis occurred just over a decade ago. Our Army then consisted of five under-strength infantry battalions and a nascent commando regiment. Our deployable logistics were rudimentary for what they were asked to do. In terms of firepower and protection, we had languished as mere spectators to the technological revolution in combined arms warfare heralded by the Yom Kippur War of 1973. Now, to some extent, the Army itself was culpable. We always preferred to play in our comfort zone—small unit operations where light infantry forces could dominate ground through aggressive patrolling, underpinned by excellent individual skills. We had mastered this in World War 2 in Papua New Guinea, and refined it almost to our own way of war by the end of Vietnam.

But we had failed to stay abreast of the increasing lethality and precision of the battlefield. Despite our tactical hubris, by the early 1990s we had run down our mastery of combined arms warfighting—and manoeuvre at the formation level, against a technologically adept adversary, was but a distant memory. And I speak with authority, as I served through it. Of course, this did not matter—we were assured—because the Army was merely a strategic goalkeeper, which would round up the forlorn stragglers who had not drowned in the sea-air gap after the second iteration of the Battle of the Bismarck Sea.

Such sterile strategic thinking was not penalised as severely as it might have been. But the strategic environment in our region in the aftermath of Vietnam was actually much less ominous than it is now. It is not the time to reduce our deployable military capability. And thankfully in every public utterance since the budget, our Minister is acutely aware of the pitfalls of that form of ‘Vietnam syndrome’ and is, as I said, on the public record as acknowledging the requirement to maintain the strength of the ADF.

Earlier, I noted one point similar to the 1930s—and that is we cannot assume that state-on-state conventional war is a thing of the past. What is my evidence for that? According to the eminent Israeli scholar Azar Gat,<sup>6</sup> many of our assumptions about the changing complexion of war are based on an ahistorical analysis of the period since World War 2. While there is persuasive statistical evidence that between 1989 and 2009 the number of major armed conflicts declined significantly, conventional wars still killed and injured more people than multiple smaller conflicts. As Pascal Vennesson concluded in a contribution to *The Changing Character of War*—mandatory reading in my view—co-edited by that wonderful British academic, Hew Strachan:

... the wars of these 20 years were predominantly low-intensity conflicts, usually taking place in the developing world and involving relatively small, ill-trained lightly armed forces that avoided major military engagements but frequently targeted civilians.<sup>7</sup>

As they grappled with the implication of this for their armed forces, many soldiers and scholars purported to identify an historic rupture in the nature of war itself, pioneering a raft of novel and stimulating theories. Some purported to identify either ‘New Wars’ or ‘Three Block Wars’, while others wrote of ‘War Amongst the People’ or ‘4th Generation Warfare’. They almost unanimously concluded that heavy conventional armies with artillery and tanks had gone the way of the dinosaur, that they were now obsolete. Only light conventional forces and special forces were required to fight in these new battlespace conflicts.

Like many meta-narratives, such as *The End of History*,<sup>8</sup> all of these theories had transient and superficial appeal. However, each has tended to be undermined by reality over time. I incline

to the school inspired by the Prussian Carl Von Clausewitz, who identified an immutable nature of war—a realm of orchestrated violence, akin to a duel, engaged in to pursue defined goals of policy.<sup>9</sup> While war to Clausewitz was ‘a true chameleon’—absorbing the hue of the socio-political climate in which it is waged, and shaped by the cultures of the competing combatants—it nonetheless is immutable in its essential nature.

As a military professional I follow these debates with intense interest. But I can’t afford the indulgence of a pet theory. I am obliged to shape forces capable of conducting the widest range of operations and giving the men and women I command the best chance they deserve to win. But why I defer to scholars like Gat and Colin Gray is the harsh realism they bring to bear on the study of war. They adopt the pessimism that soldiers, who ultimately must bear the privations of war, bring to our analysis. As the infamous Confederate General Nathan Forrest once remarked, ‘War means fightin’ and fightin’ means killin’.<sup>10</sup> And so it has been through all human history—and I cannot see an outbreak of general peace in that unforeseeable future.

Befitting a fine scholar, Azar Gat is more eloquent than Forrest. He makes a compelling case to the effect that whatever the statistical evidence, and there is an abundance of it, state-on-state war has declined in frequency, albeit most of the data applies to the period of post-colonial guerrilla war since 1945 and the proxy wars through which the Cold War protagonists jostled for influence.<sup>11</sup> Gat points out that the era of hybrid war since the demise of Soviet communism is actually atypical. The theory of the ‘democratic peace’, whereby the spread of free markets and democracy would herald an era of unprecedented peace, no longer looks credible. Francis Fukuyama’s vaunted *End of History* enjoyed a very short shelf life. It turned out that history had merely taken a long weekend.

The idea that we can will away war, because we are about to withdraw from one that went longer and ended less conclusively than we liked, is wishful thinking. And even if one concedes its relative infrequency, its catastrophic effects are immeasurable when it does occur. A serious middle power with global responsibilities such as Australia cannot will away the risks of armed conflict in our immediate region, or in other areas in which we have a vital interest in their stability. It gives me no joy to say that—but wishing away harsh reality is hardly an appropriate basis for making assessments about the nation’s future security and prosperity.

And what are the implications of this for the Australian Army? Well, fortunately, the debate about whether hybrid or irregular war has eclipsed conventional war does not bear any professional implication for us. Our hard-won experience suggests that balanced combined arms teams equipped with robust foundation warfighting skills are most suitable for the widest range of military missions. That assumption informs our doctrine and training, as well as our force structure and modernisation planning. It is intrinsic to the last White Paper. It is certainly front-and-centre for those who are looking at the White Paper that will be delivered in 2013. It is a deeply held view of those who advise Government now.

Moreover, Australia has never possessed the heavy formations that filled the inventories of some of the most advanced armies of the Cold War era. Frankly, we have had to increase our combat weight to be even viable in the non-permissive peace enforcement space, much less to survive against the lethal insurgents that we have encountered in the last decade. I speak for all my leadership group, and for all of my living predecessors, in averring that the Australian Army has an obligation to the Government to be capable of providing and sustaining ready and relevant conventional military formations capable of fighting against a credible peer competitor. And every government since the 2000 White Paper has confirmed our assessment

that this is the baseline requirement for force development. And I see no difference, even in the wake of the very difficult decisions that the Government has had to make about its current budget.

There is a national imperative to weigh carefully the real cost of diluting that capability, and that is my argument. The strategic case is irrefutable and, as I ventured earlier, I believe that the fiscal case for sustaining the current Army is also sound. A recent study that I commissioned looked at the inefficiency of the yo-yo process of shrinking and surging the Army to meet short-term economic gains. That work confirms that cyclic changes in capability, characterised by the removal and subsequent re-growth of capability, is exponentially more expensive than retention of capability over time, unless, of course, a lengthy benign future is actually foreseeable.

The bottom line is that we have not even yet completed the remediation of our land forces found to be necessary to achieve the strategic tasks assigned to the ADF by the 2000 White Paper. However, this process has already incurred massive sunk costs—and that's not just in Army. The vital enabling component for the simultaneous deployment of a brigade and battle-group, within the archipelagic approaches to Australia, is only now just being realised with the arrival of the first Landing Helicopter Docks. The point at which we could reduce the size of the Army, and reconfigure the rest of the ADF to implement a pure sea denial strategy and actually achieve budget savings, I believe has already passed.

In brief, the plan for Australia's future force structure, BEERSHEBA, also makes financial sense, characterised as it is by the standardisation of our combat brigades and their vehicle fleets. This will achieve significant efficiencies and savings. And we remain committed to nesting a dedicated amphibious capability, based on the Second Battalion, the Royal Australian Regiment, within the 3rd Brigade in Townsville in Queensland. This is a vital initiative, as demonstrated by the rapid deployment of our forces to East Timor in 1999 and again in 2006, as well as the Solomon Islands in 2003 and our tsunami relief operation in 2005.

Let me close with three quotes. The first is from Trotsky, whose history, cum-blatant propaganda of the Russian Civil War, following the Bolshevik Revolution, I enjoyed immensely as a university student. It is the oft-quoted line, 'you may not be interested in war, but war is interested in you'.<sup>12</sup> The second is taken from the great protagonist of Trotsky, Joseph Stalin, whose observation that 'quantity has a quality all its own'<sup>13</sup> was stating, in my view, a simple fact in regard to the physics of war and military operations.

I will conclude by quoting from Al Capone who, while applying his observation solely to the protection rackets of the 1920s, lends weight as to why armed forces are likely to remain an intrinsic part of how all nations interact with each other. He purportedly observed that 'You can go a long way in this neighbourhood with a smile. You can go even further with a smile and a gun'.<sup>14</sup>

*Lieutenant General David Morrison joined the Army in 1979 and graduated from the Officer Cadet School, Portsea to the Royal Australian Infantry Corps. Between 1980 and 1991, he held a variety of regimental positions in Brisbane, Singleton and Newcastle. He was also the Australian Instructor at the Royal Military Academy, Sandhurst, UK in 1987-88. After attending Army Command and Staff College in 1992, he was appointed the Brigade Major of the 3rd Brigade, deploying in that role to Bougainville as part of Operation LAGOON in 1994.*

*He was the Commanding Officer of the Second Battalion, The Royal Australian Regiment in 1997-98. He was promoted to Colonel in October 1999 and took up the position of Colonel Operations, Headquarters INTERFET. In 2001, he attended the Centre for Defence and Strategic Studies, Canberra. He was promoted to Brigadier in November 2002 and commanded the 3rd Brigade until December 2004, when he was appointed Director-General Preparedness and Plans-Army.*

*He was promoted to Major General and appointed Commander of the Australian Defence Colleges in January 2006. In April 2007, he was appointed Head Military Strategic Commitments, before becoming the Deputy Chief of Army in early 2008. He was appointed Land Commander Australia in December 2008 and became Army's first Forces Commander in July 2009. In June 2011, he was promoted to Lieutenant General and assumed his current appointment of Chief of Army.*

## NOTES

1. This is a slightly-abridged version of a speech presented by the Chief of Army at the University of Canberra on 26 October 2012 as part of the 'National Security Lecture' series.
2. Attributed in Robert Debs Heinl, *Dictionary of Military and Naval Quotations*, US Naval Institute: Annapolis, Maryland, 1966, p. 289: see <<http://trove.nla.gov.au/work/30001551?versionId=36440109>> accessed 14 December 2012.
3. Philip Bobbitt, *The Shield of Achilles: war, peace and the course of history*, Random House: New York, 2002.
4. Michael Evans, *The Tyranny of Dissonance: Australia's strategic culture and way of war 1901-2005*, Land Warfare Studies Centre: Canberra, 2004.
5. See Colin S. Gray, *Another Bloody Century: future warfare*, Weidenfeld and Nicolson: London, 2005.
6. Azar Gat, *A History of Military Thought: from the enlightenment to the Cold War*: Oxford University Press: Oxford, 2001: see <<http://www.oup.com/us/catalog/general/subject/HistoryOther/MilitaryHistory/?view=usa&ci=9780199247622>> accessed 21 December 2012.
7. Pascal Vennesson, 'War without the people' in Hew Strachan and Sibylle Scheipers (eds.), *The Changing Character of War*, Oxford University Press: Oxford, 2011, p. 241.
8. Francis Fukuyama, *The End of History and the Last Man*, Avon Books: New York, 1992.
9. See, for example, Carl von Clausewitz, *On War*, translated by Michael Howard and Peter Paret, Princeton University Press: Princeton, 1976.
10. Quoted by General J.R. Charlmers in 'Lieutenant General Nathan Bedford Forrest and His Campaigns', reproduced in *Southern Historical Society Papers*, Vol. 7, No. 10, October 1879: see <<http://www.civilwarhome.com/forrestcampaigns.htm>> accessed 21 December 2012.
11. Gat, *A History of Military Thought*, p. 27.
12. Generally believed to be a paraphrasing of words used by Trotsky in a letter dated June 1940: see <<http://en.wikiquote.org/wiki/Trotsky>> accessed 21 December 2012.
13. Stalin supposedly said this in relation to investment in the Red Army.
14. See, for example, <[http://www.quotationspage.com/quotes/Al\\_Capone/](http://www.quotationspage.com/quotes/Al_Capone/)> accessed 27 December 2012.

# The Role of the RAAF in Australia's Security<sup>1</sup>

Air Marshal Geoff Brown, AO, Chief of Air Force

## Introduction

There are, I would suggest, three prime drivers that condition the role of the RAAF in the current and future security environment: Australia's national security strategy, the enduring roles of air power, and the level of capability available to execute these functions.

At the forefront of these drivers, and the most consequential of them, is the strategy that underpins Australia's approach to security. I hope to briefly lay out the case why I believe conceptualising Australian military strategy within a grand national maritime strategy is an appropriate and sensible approach when we come to discuss the role of the RAAF in Australian national security. Furthermore, I hope to establish the clear and unambiguous roles for the RAAF in this approach—and how our capabilities, people and professionalism meet the challenges of this environment—before finally pointing to some of the issues that will influence the RAAF's ability to meet its responsibilities within this strategy.

Australia is a land surrounded entirely by sea; it is also, however, covered 100 per cent by air, and this fact fundamentally shapes our strategic approach to national security. Air, land and sea forces are the irreducible minimum components of our national security approach, and the roles each of our forces play in any operation, be it peace or conflict, are determined by the context of the issue and the particular approach directed by Government. Our national security enterprise is empowered by the capabilities that air power provides and it is the RAAF (primarily) that delivers this air power for any joint response to a national security circumstance.

## Maritime strategy

### *Geography*

For Australia, it is geography that has fundamentally shaped who we are. It has shaped how we live, how we trade and how we interact with the international community of states. It has shaped how we perceive our security needs today, and into the future, and it has shaped our military forces and strategic thinking likewise. Geography has, in short, determined what sort of nation we are—and that nation is at essence a maritime trading one.

### *Trade*

Australia, whether we consciously acknowledge it or not, has more or less since federation operated some form of maritime strategy, be it one premised on our traditional affinity with Great Britain or one that recognised the importance of our trans-Pacific alliance with the US. Our ability to function as a maritime trading nation has been underpinned by the use of the oceans and airways surrounding our shores as reliable means of engaging with our neighbours and trading partners. So today, when we speak of a security strategy, we are in fact speaking of what has been the basis of our way of life ever since we became an independent sovereign state.

### ***Continental versus maritime strategy?***

There can be no escaping the fact that we are an island nation and, while we enjoy an uninterrupted connection to the global community through the many communication and information mechanisms available, we are divided geographically from the rest of the world by the sea. It would be easy to suggest that to secure Australia we have only to ensure we are able to deter or deny any attempts to attack this country or, in the event of lodgement by an enemy, defeat or repel them. In other words, it can be argued that Australia's defence strategy ought, primarily and perhaps solely, to be centred on the territorial defence of our national sovereignty. But this may very well be a somewhat myopic view given the global nature of contemporary security.

Clearly, territorial defence can never be diminished or neglected. However, important as this view is, it misses the broader context that Australia's prosperity, and indeed our way of life, is based around our ability to trade and, more precisely, being able to trade across the oceans and airways. Without belabouring the obvious, I think it is worth reiterating the fundamentals of our national circumstance, especially as they are so easily and perilously assumed away.

### ***Maritime commons***

The vast majority of this trade is conducted over the maritime and air divide between ourselves and our trading partners around the globe. Crucial trading routes, the presence of large and growing regional naval capabilities, as well as transnational security concerns such as piracy, drive Australia to put the Indian Ocean, alongside the Pacific Ocean, at the heart of our maritime strategic and defence planning. Unimpeded access through the maritime commons, stability within our region, the security of our trading partners and a continued preservation of international order are all conditions that elementally influence our approach to security.

In short, in the absence of an existential threat to our territory, anything that threatens our ability to conduct trade over the seas and through the air is the greatest and most consequential risk to our security and way of life. A peaceful, cooperative and stable maritime environment is the necessary precondition for our continued national prosperity.

### ***Stability fragility***

International stability, however, is a fragile commodity. The security environment can rapidly, and without forewarning, transition from a state of relative peace and calm into a violent state of turmoil, threatening the essential preconditions of our maritime trading way of life. Normally, if history is a reliable guide, this will occur at 2am on a Sunday morning during the holidays. The end of the Cold War, the sudden and unforeseen events of 9/11, and the recent uprisings in the Middle East attest to this fragility. We cannot assume the regional stability we observe today is guaranteed to remain so. Stability and security, especially for a trading nation, go hand-in-hand. The level of stability we might enjoy in our region is causally linked to the level of security we would deem necessary to our preferred way of life.

For these reasons, Australia's interests are not just limited to our sovereign territory or to our immediate neighbourhood but stretch throughout the Asia-Pacific region and extend globally. Consequently, unfettered access to the maritime and air commons across which we trade, and stability within our region, are pivotal to the continuation of our way of life and our standard of living. The implications of this are, I would suggest, obvious, if perhaps not commonly well understood.

## ***Conditions for trade***

Unfettered sea and air lines of communication, unwavering support to international law and good order at sea are all necessary conditions to ensure trade and commerce flourish to the benefit of all involved. The upholding of all of these is clearly in our national interest.

## ***National interests***

It would come as no surprise then that successive governments have maintained that our national security objectives and national strategy reflect the need not only to defend Australia and its direct approaches but to ensure our capability and capacity to act as a free maritime trading nation. Such a strategy, a maritime strategy, would among other things:

- enable us to go to the aid of friendly states in our region;
- control and develop our important offshore resources, including oil and gas;
- have the capability to control fisheries, illegal immigration, smuggling and piracy; and
- exercise the capability to maintain a level of security anywhere around our coasts or offshore islands.

Clearly, these capabilities will not always, or only, be exercised by the ADF.

## ***Whole-of-government enterprise***

A maritime strategy, if it could possibly need further elaboration, is a whole-of-government enterprise. Defence, and indeed the Air Force, plays a large role but it does so in concert with all relevant federal and state governmental organisations. And it does so importantly in partnership with industry and the private sector.

## ***Force in a maritime strategy***

Australia, by any global measure, is a tolerant society. Consequently, the application of force is only authorised when all other avenues of resolution and response options have been exhausted. This means clearly that the ADF will not have the lead role in many of the response options Government may choose to pursue. Indeed, the ADF's maritime strategy is predicated on *understanding and shaping* the environment where our national interests lie, providing a *deterrent* against any that seek to act against Australia and then, if absolutely necessary, *denying or defeating* any adversary that attacks or threatens Australia or its interests. This potentially extends throughout the entirety of our maritime environment.

## ***Not a naval strategy***

Finally, with regards to Australia's military maritime strategy, it is probably redundant of me to note that a maritime strategy is not synonymous with a naval strategy. Defence's maritime strategy involves air, sea and land forces operating jointly to influence events that impact our national interests. The ADF's contribution to our national maritime strategy is, and can only ever be considered, a joint contribution. This ought to be neither a startling nor a novel revelation. Joint maritime operations have enjoyed a sound heritage and an important place in Australian defence thinking.

## ***MacArthur's island-hopping campaign***

To give an example of this concept in operation we need only to consider General Douglas MacArthur's island-hopping campaign across the Southwest Pacific from New Guinea to the Philippines during World War 2. The unique characteristics of each Service were required to control the air, control the sea lines of communications and secure the islands to achieve victory in the Southwest Pacific. Forward airfields enabled the projection of land-based airpower that provided the intelligence, surveillance and reconnaissance (ISR); control of the air; and strike and air mobility that history records were vital in enabling sea and land forces to conduct their operations. Without land forces, there would have been no forward bases, and without sea power there would have been no projection capability of the land force. Together, the land, sea and air forces constituted a power far greater than the sum of their parts.

No maritime strategy can achieve success without the use of each Service's core warfighting capabilities. This has been true across our last 100 years, is true today, and will continue to be so into the future. Some argue that to meet the security challenges of tomorrow, the Air Force of today needs to transform. To some degree that may be correct. We need to continue balancing the Air Force to be able to respond to future challenges. We will need to evolve the way we conduct our business but not necessarily our fundamental roles. So when asked about the role Air Force plays in Australia's future security, I like to start with an appeal to the past.

## **Slices in time**

Mark Twain was once quoted as saying that 'while history doesn't repeat itself, it sure does rhyme'.<sup>2</sup>

From this I deduce, and my own experiences confirm, that while history may be an unreliable guide to the future, it is still the best we have. Philosophically, we would have to confess that many of the decisions we might make today, or at any particular point in time, may in fact turn out to be fundamentally wrong when we look back with the clear benefit of hindsight 20 years later. In many cases, the prevailing political wisdom of how the future will look and how things will certainly turn out, inevitably prove to be categorically wrong.

I will paraphrase George Friedman, an American political writer, who illustrates this point by taking a series of 20-year cuts through the 20<sup>th</sup> century<sup>3</sup> to show how wrong you may be when you sit at any point in time and look to the future.

**1900.** It is appropriately interesting if you take the last 100 odd years. If we go back and imagine London around 1900—remembering the Wright brothers had not yet flown—and you look across the globe. European capitals influenced every part of the world. At that point in time, the major empires were well interconnected. Nobody, including Norman Angell in his work *The Great Illusion*,<sup>4</sup> could envisage a war lasting any longer than three weeks because, among other things, there would be too much financial strain on the highly-interconnected markets, and simply because of the fact that there existed global European empires. Sound familiar?

**1920.** We move forward 20 years. Millions have been killed in a four-year war, and all of the empires—most particularly the Austro-Hungarian and Ottoman Empires—are in tatters. America arrived on the world stage with a force of a million men and all of a sudden became a major power. Japan, previously in the shadows, is on the rise. But in 1920, despite the turmoil of recent times, you are *really sure* of one thing; the peace treaty with Germany means it will *never* rise again.



**1940.** We roll forward to 1940 and Germany has defeated France and dominates Europe. Russia and Germany have a pact. In Britain, in the summer of 1940, life looks pretty grim—it might not be a ‘Thousand Year Reich’ but you can imagine Germany dominating the region for a little while longer. Aircraft are emerging as the critical weapon of war because, without air superiority, the effectiveness of ships and ground forces comes into question.

**1960.** Moving into 1960 and you find Germany was defeated within five years—that was not something you could imagine in 1940—Europe is divided down the middle, and the competition for global influence is being played out between the US and the Soviet Union. America’s nuclear domination tempers the Soviet Union’s options. China in 1960 might be a threat because of the fanatical Maoist regime. The only apparent option for the Soviets to achieve their goal of global dominance is to invade Europe through the Fulda Gap; so that is what the West prepares for during the next 15 years. If we think especially about aircraft for the moment, speed is the key factor—Mach 2 is everything. We are looking at high speed interceptors; you did not need to turn, missiles were the go.

**1980.** If we roll forward to 1980, the world has changed quite a bit. America has lost a war, not with the Soviet Union but with communist North Vietnam, and it saw a dramatic reversal in relations with oil-rich Iran, with the Soviets looking to be the dominant influence in the region. In many ways, America feels in retreat and its status as a global superpower is under question. In regard to aircraft, we are back to looking at manoeuvre as the key to air superiority.

**2000.** Just 20 years on, the Soviet Union has collapsed, America is the sole superpower and the world looks peaceful and prosperous. The only instability most analysts envisage are conflicts in Haiti and Kosovo and limited regional conflicts. But, just one year on, September 11 occurs and today we have been at (global) war for 12 years.

**2020.** Anybody who sits here in 2012 and tells you with certainty what it is going to look like in 2020 suffers a profound lack of imagination. We need to appreciate that while history offers many excellent lessons, it provides more a sense of the future rather than an accurate prediction of events in any sense. From an Air Force perspective, we clearly understand that our shape needs to be tempered by the past but ready to respond to the unpredictable realities of the future.

### ***Regional stability***

Narrowing our focus to our immediate region, we have seen a prevailing condition of relative peace for the last 40 years. Our region has gone through phases of rapid economic development, underpinned by security fundamentally provided through US domination of the Pacific. The US presence and close partnerships endemic in the Asia-Pacific region have ensured the openness of the sea lines of communication and global commons which are essential to peaceful trade and economic development. However, as we are constantly reminded—and as we have seen with recent events further afield—stability is still a fragile commodity and we are mindful and attentive of changes in regional relationships.

### ***China and India***

If I look forward into the future (despite my own best advice against such), what do I see? I see a China well and truly on the rise; I see an India undergoing rapid growth. Both countries are ancient civilisations looking for their place in the world. Accommodation in some form, I would suggest, is inevitable.

As we look into the future, changes across our region raise the possibility for strategic miscalculation, and nationally, we need to be ready to respond to ensure the security of our interests.

### ***Recent lessons***

The global instability witnessed across the last 12 years enables observers, astute or otherwise, to draw a number of lessons. At the forefront of these is the increasing cost and complexity of ground campaigns. However, given the appropriate circumstances, there are options to land-centric, manpower intensive operations. At the RAAF Air Power Conference held in May 2012, we explored the recent conflict in Libya as a contemporary example of an evolving international security environment.

One of the key lessons from the Libyan campaign was that an inferior ground force, enabled by air power, can prevail over a superior armoured force. Air power shifted the asymmetrical advantage across to the rebel forces. The other significant observation out of Libya is that any Western army may have beaten Qaddafi's forces in about two weeks but NATO and the UN chose not to. They chose not to do so because experiences gained from Iraq and Afghanistan highlighted the complexity of ground operations in wars where the security of the local population was the objective rather than the defeat of an adversary.

The emerging norm of 'responsibility to protect' and the complexities of UN coalition operations ensure that in such circumstances, we find ourselves very quickly trying to navigate a minefield of ethical, conceptual and pragmatic challenges. Once you put military people on the ground, the situation becomes incredibly complex. There is a time and a place for 'boots on the ground'—and if faced with this situation, the Army and the ADF will be ready. But air power enables an alternate bridge between policy and strategy, providing a greater range of options to achieve limited strategic objectives. It has a utility beyond simple kinetic effect. It has the ability to reflect proportionality, reciprocity and credibility. Air power delivers these effects through its principal roles.

### **Four fundamental and enduring roles**

Since its inception as a military tool nearly 100 years ago, air power has played a crucial role in every conflict Australia has been involved in. I would suggest air power is more critical to our national security today than any time in our past—and its impact on our maritime strategic environment will only continue to grow. Our national security enterprise is empowered by the capabilities air power provides and it is the RAAF that delivers this air power for any joint response to a national security crisis.

So what does an air force bring to the joint fight? In my opinion, we only do four things, and we have been doing these four fundamental things since World War 1.

### ***Air mobility***

Firstly, we as an air force move things through the air. Air mobility is a cornerstone activity in virtually any military strategy. From the Berlin airlift to Cyclone Yasi, the RAAF has a long history of responding to crises that require the rapid movement of people and equipment over long distances at very short notice.

*C-27J.* The Air Force will continue this tradition with the acquisition of the C-27J Spartan. Announced at the 2012 Air Power Conference by the Minister for Defence, the battlefield airlifter will close the gap we have in our mobility spectrum, further enabling Army and Navy to achieve their tactical objectives. Scheduled for delivery in 2015, it will enable more than four times the number of airfields to be reached in Australia and twice more in the Asian region than can be accessed by the C-130. The C-27J Spartan is the right aircraft for our Australian environment.

*C-17.* In addition, November 2012 will see the arrival of our sixth C-17, which will double the number of C-17 aircraft available for operations at any one time from two to four, enhancing Australia's ability to move people and equipment across large distances relatively quickly. The additional C-17 increases the response options available to Government and will extend the life of the C-17 fleet by reducing the use of each aircraft.

## ***ISR***

The second thing we do is to observe things from the air, whether they be on the ground or the sea. The strategic, operational and tactical situational awareness developed from airborne surveillance enables not just air activities but is fundamental in the conduct of our land and maritime operations, as well as in the activities of many other government agencies.

To manage the battlespace, the area where all land, sea and air activities of interest occur, requires Air Force to possess a number of recently-introduced key systems. Our Vigilaire command and control system, which has been operating since December 2010, fuses 245 different inputs from 45 systems, varying from ground-based to space-based systems.

*Wedgetail.* The other significant capability, besides the Jindalee Operational Radar Network, is the Wedgetail airborne early warning and control aircraft. I am pleased to advise that Wedgetail is on track to achieve its initial operational capability late in 2012.

Wedgetail represents a fundamental shift in airborne surveillance technology and, although not often seen by the Australian public, it truly is a game changer in its ability to control the battlespace. By providing situational awareness across huge swathes of the battlefield, simultaneous tracking of airborne and maritime targets, control of air defence assets, communication relay capabilities and surveillance of the electronic spectrum, Wedgetail will significantly enhance our capacity to control and protect Australia's land, sea and air environments.

*AP-3C/P-8.* Alongside the introduction of the Wedgetail, I am also pleased to report that our program to replace the AP-3C, our maritime surveillance and response capability, continues to be on track. As I have alluded, the maritime environment is central to our way of life and, for many years, the AP-3C has played a critical role in securing our sea lines of communication. Its replacement, the P-8 Poseidon, is a highly-capable maritime patrol and strike platform, which alongside its essential adjunct, the Multi-mission Unmanned Aerial System, will continue to secure our maritime and land environments.

## ***Strike***

Thirdly, we strike things on the land and sea, from the air. The ability to attack prescribed targets with precision, effectiveness and, potentially, lethality is a critical element of what Air Force brings to the joint fight.

We proved the effectiveness of this ability during the 2003 deployment of our fighter aircraft to the Middle East area of operations. Whether the task is responding to troops in contact, suppressing a command and control node or striking a maritime surface combatant, effective and lethal combat air power is available to protect Australia's interests when needed. Strike, normally the most visible activity in any conflict, has a large impact on an adversary's ability to fight but it also is the most risky.

**JASSM.** The introduction of stand-off weapons, such as the AGM-158 Joint Air-to-Surface Stand-off Missile (JASSM), reduces the risk to our strike platforms from air and ground threats and provides us for the first time with the ability to hold at risk a range of regional targets across our strategic environment from an extended stand-off range.

**JSOW.** JASSM achieved its initial operating capability on the Classic Hornet in December 2011 and, alongside the AGM-154C Joint Stand-off Weapon (JSOW) on the Super Hornet, fills Australia's strike capability needs previously provided by the F-111. This is a significant capability that alters the calculus of power projection in the region.

Our operating environment is not becoming any less complex and we see no reason to expect preparedness requirements to reduce. The requirement to maintain persistent air coverage in most operational environments is a key element of our preparedness.

### ***Control of the air***

Finally, but importantly, the most fundamental thing we do is control the air domain. Without control of the air, all land, sea and air operations remain at substantial risk.

**F/A-18.** Air power's primary role is, and always has been, control of the air. Our ability to ensure freedom from air attack enables our land, air and sea forces the freedom to manoeuvre, as well as the freedom to attack. This ability is delivered by our upgraded classic F/A-18s, and more recently the Super-Hornet, enabled through our ISR and battlespace management capabilities.

**Why 5<sup>th</sup> generation?** I am frequently asked the question 'why are 5<sup>th</sup> generation fighters so important to our future security'? Our approach to high-end war fighting capabilities is to ensure we can achieve a level of lethality and survivability that exceeds those of past, present and future potential adversaries. While I cannot predict the future, one important lesson I take away from history is that the next conflict may not look like any of the previous ones.

Planning to fight the last war is a fatal mistake for any nation. We need a combat system that delivers on our prime responsibility, that of control of the air, across the entire spectrum of conflict. If you choose not to have control of the air across the range of potential crises, you commit yourself to the belief that you have a choice in all the fights you undertake, although history unfortunately may not back up this belief. A strategy of winning only some of the time undermines the essence of national security. Fifth-generation aircraft provide Australia the capability to succeed in the air across the spectrum of conflict and, for Australia, the Joint Strike Fighter (JSF) is the weapon system that will provide this capability for many decades.

**Red Flag.** Now in my view, there is probably a little too much made of the stealth in 5<sup>th</sup> generation characteristics as the defining characteristic. The secret of success in air combat is really about the overall situational awareness of the proponents. What I define as situational awareness is the ability in the cockpit, or formation, to determine what has happened, what is happening and what might happen. The intersection of the three tends to be a reasonable description of situational awareness.

My best example of situational awareness came from when I had the privilege of participating in a 'Red Flag' exercise. Red Flag is a large-scale air exercise designed to give aircrew an experience of the first five combat missions in a large-scale conflict. As you can imagine, it is the most complicated airborne training available to undertake in the ADF.

It takes place in the deserts of Nevada over a two- or three-week period and involves a dedicated and highly qualified opposition force (Red Air), often involving upwards of 120 aircraft. The missions often involve getting packages of aircraft, strike and transport, through a very complex air defence environment to a series of targets.

I had the opportunity to fly in an opposition Red Air F-15D fitted with a sophisticated electronic-warfare jamming capability. I was looking forward to being on the mission having been on the receiving end of 'Red Air' over the years. However, instead of witnessing the normal attrition of a strike package, I witnessed a demonstration of the superiority of the 5<sup>th</sup> generation aircraft. What I didn't account for was the effect of the eight escort F-22s. The good thing about Red Air is that you are allowed to regenerate if you suffer a simulated kill.

So what happened? Well, we advanced into the airspace about 40 nautical miles (nm) and were 'killed' with no idea who or what had caused our demise. We regenerated and the next time only advanced 20nm. We regenerated a total of five times and only advanced a maximum of 40nm into the airspace; such was the dramatic superiority of a 5<sup>th</sup> generation aircraft.

Post-flight I was then fortunate to view the engagement from the viewpoint of the F-22 formation. The level of situational awareness was dramatically different. The F-22 pilots had a complete 'gods-eye' view of the battle space and the differences between the benchmark 4<sup>th</sup> generation aircraft and a 5<sup>th</sup> generation aircraft were quite stark. It is this situational awareness that determines who wins and who loses in the fight for control of the air.

Now winning or losing one element of an operation may not sound pivotal to the overall success of a campaign but it is worth remembering that the last Australian soldier to be killed by an air attack was in 1943 and it was a *Kamikaze* attack on HMAS *Australia* in January 1945 that saw the last Australian sailor to die from enemy air. Our opponents in every conflict since have not been so lucky.

I agree with the old adage 'with control of the air, you may lose; but without it, you most certainly will'. This lesson remains as valuable today as it was in the past. General George Kenney who was MacArthur's air component commander once said 'air power is like poker. A second-best hand is like none at all—it will cost you dough and win you nothing'.<sup>5</sup>

**Middle East combat air patrols.** This brings me to the importance of capacity to Australia's future security. At the 2012 Air Power Conference, I indicated that capacity counts almost as much as capability during combat operations and I turn to a real world experience as an example.

One of the key requirements of Operation IRAQI FREEDOM was control of the air and it is instructive to look at the combat air patrol (CAP) missions set up for the campaign. I was involved in the planning of the air operations and one of the foundations of the whole campaign was the CAPs that enabled the land forces to achieve their objectives, as well as the protection of the ISR assets and naval task elements. It was determined that three CAPs were required over Iraq, 24 hours per day, seven days a week. Australia's contribution was 14 F/A-18

Hornets from 75 Squadron. Our responsibility was to hold the eastern CAP for about 8 hours. To achieve this required 12 serviceable aircraft each day, a feat in itself from 14 available airframes—but remember this was only for one-third of the 24-hour period and only one of three CAP positions.

To maintain control of the air across the three CAPs so that all other land and air operations could go ahead unhindered required 155 coalition fighter aircraft to be committed to the air campaign. Control of the air is a numbers-hungry operation but is the most important air power contribution to the joint campaign. It doesn't take much of an extrapolation to develop an appreciation of the potential scale of Australia's fighter requirements.

Consider how many aircraft would be needed to project a CAP over an amphibious task force, as well as an on-call close air support CAP over a combat team. Throw on the requirement to provide protection for other points of vital national interest, such as our oil and gas platforms, the knowledge that maintenance and training reduces the number of aircraft available for combat, and you can easily see that capacity matters and anything less than 100 JSF severely limits the options available to Government, as well as our land, sea and air capabilities, and provides only a boutique capability.

## Closing

We are, as a people, justifiably proud of our country and clearly we value our way of life, a way of life that is underpinned by trade and secured, ultimately, by the ADF. Our strategy to maintain this security into the future, whether at the grand or military level, revolves around our place in our maritime environment. But as history has shown, anyone can predict the future but rarely do these predictions play out correctly. Thus it is prudent that we maintain a balanced force, capable of responding to whatever crisis unfolds, be it humanitarian or major combat.

Such thinking, of course, has been the hallmark of Defence strategy for many years but it bears reiteration today. Air Force is certain of our role in national strategy and in our vital contributions to national security. We have a very clear understanding of what is required of us and what it takes to fulfil those responsibilities.

Air Force, as an element of the joint force, provides the Government with scalable and proportional options that bridge the strategic and operational divide. Whether it is via air mobility or our principal role of control of the air, the men and women of the RAAF are ready to respond to whatever missions the Government places upon us. I proudly say without reservation that we have the most powerful air force east of India and south of China.

*Air Marshal Brown joined the RAAF in February 1980 and graduated from pilot training in 1981. His early postings included 12 Squadron Amberley, 2 Flying Training School Pearce and Central Flying School East Sale, where he was a member of the Roulettes from 1987-89. In 1990, he was posted to Williamstown for a Hornet conversion and then completed a short tour at 77 Squadron. On promotion to Squadron Leader in 1991, he was posted to 75 Squadron Tindal as a Flight Commander, followed by a posting to 77 Squadron as Executive Officer.*

*He completed RAAF Staff College in 1995 and was subsequently posted to Headquarters Air Command as Staff Officer Operational Evaluation. From 1997 to 2000, Air Marshal Brown commanded No. 3 Squadron. He then completed F-111 conversion and assumed the position of Officer Commanding No. 82 Wing in December 2000. In 2003, he commanded all F/A-18 and C-130 operations in Operation IRAQI FREEDOM.*

*He was Officer Commanding Airborne Early Warning and Control Systems Program Office from June 2003 until December 2004 and spent 2005 at the Centre for Defence and Strategic Studies. He then commanded Air Combat Group throughout 2006. From January 2007 until June 2008, he was Director General Capability Planning in Air Force Headquarters. Air Marshal Brown was the Deputy Chief of Air Force from June 2008 to July 2011, before being appointed Chief of Air Force on 4 July 2011.*

## NOTES

1. This is an abridged version of a speech presented at the Australian Strategic Policy Institute on 5 June 2012.
2. The quotation appears in several variants. Although Twain scholars agree that it sounds like something he would say, they have been unable to find the actual quotation in his works: see <[http://en.wikipedia.org/wiki/Historic\\_recurrence](http://en.wikipedia.org/wiki/Historic_recurrence)> accessed 21 January 2013.
3. See George Friedman, *The Next 100 Years: a forecast for the 21st century*, Knopf Doubleday: New York, 2010.
4. First published as Norman Angell, *Europe's Optical Illusion*, Simpkin, Marshall, Hamilton, Kent: London, 1909.
5. See, for example, his memoirs of World War 2: George C. Kenney, *General Kenney Reports: a personal history of the Pacific War*, Duell, Sloan and Pearce: New York, 1949.

# Reframing the Defence Discourse: Australia's 'black swan' and its implications for preparedness and mobilisation

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Public debate regarding the short- and long-term implications of recent cuts to the Defence budget plays an essential role in ensuring public awareness of defence issues. This public discourse also helps to fuel both inter- and intra-departmental dialogue regarding defence and broader national security issues. Much of this debate fits within the broad gamut of Defence preparedness, which is the area responsible for guiding the management of the ADF's finite capability, capacity and financial resources to meet short-, medium- and long-term challenges.

Much of this debate's pragmatic value could be greatly improved if the commentary was framed by preparedness and mobilisation principles. For example, Hugh White (2012) has argued that the defence of Australia is a hollow foundation for the ADF, asserting—as evidence—that the ADF would be incapable of effectively engaging in such a campaign with its current capability and capacity. Retired Lieutenant General Peter Leahy argues—contrary to Sir Arthur Tange's maxim, which was recently echoed by former Defence Secretary Duncan Lewis (2012), regarding the relationship between strategy and budget—that 'first a nation has to know what it wants, then develop a strategy to achieve it and then finally allocate a budget' (2012, p. 42).

Both contentions lack a contextual grounding in the relationship between Australia's self-reliant defence of Australia and the strategic hedging principle inherent in Defence's preparedness and mobilisation activities. This article seeks to refocus the internal and external debate by outlining some of the key principles underpinning defence preparedness and mobilisation. It is designed for several audiences—Defence analysts, planners, strategists and the public—to help inform and shape the parameters of the ongoing departmental and public debates.

Nassim Taleb (2007) coined the phrase 'black swan' to describe low probability events with catastrophic consequences that are largely disregarded in risk management planning due to their improbability but which, with the benefit of hindsight, are seen to have been predictable. In a benign strategic environment, the self-reliant defence of Australia has all the characteristics of a 'black swan': it is highly improbable and it is difficult to predict its exact characteristics, yet it would have disastrous consequences for the nation.

This article argues that Defence's 'black swan'—a defence of Australia campaign against conventional military forces—should continue to be the fundamental driver of all Defence preparedness activities, including force generation, capability development and capability management. Furthermore, the contextual framework outlined here provides the mechanism for resource prioritisation which enables Defence to be capable of dealing effectively with contingencies that could arise in the shorter term while maintaining an appropriate and adaptable capability, and concomitant capacity, to establish an appropriate baseline for future mobilisation.



## Australia and the Asia-Pacific century

Australia's strategic environment is characterised by a complex interplay of emergent factors and latent trends, the full impact of which is difficult to accurately project. The US pivot to the Asia-Pacific and the rise of China and India as significant global powers are macro-strategic factors that will fundamentally shape intra- and inter-regional political, economic and military relations. China's emergence is one of the central features of the region's shifting strategic landscape. While China's rise to superpower status may not be either smooth, predictable or inevitable, casting China as inherently adversarial to US interests, regionally and globally, could prove a self-fulfilling prophecy.

Positioning themselves to reap the benefits of both the US pivot and the rise of Asian powers, while avoiding perpetuating adversarial relations between major powers, will be the challenge facing all nations in the Asia-Pacific region, not just Australia. This is made more complex by the emergence of aspirant middle power nations, engaged in military modernisation and capability procurement efforts, that not only have much larger population bases than Australia but greater workforce participation capacities. Australia's ability to respond to these regional trends will be further challenged by domestic factors, including fiscal austerity, increasing and diversifying operational expectations of the ADF by Government, and demographic changes that will herald a decline in the nation's working population (Commonwealth of Australia [Intergenerational Report] 2010).

In the face of this developing strategic uncertainty and as Australia's operations in Afghanistan, East Timor and the Solomon Islands draw down, focus will shift once again to *the* fundamental strategic issue facing Defence: how to prepare the ADF to provide contributions to government requests in the short, medium and long terms with an increasingly constrained budget. Because Australia's immediate geo-political neighbourhood has enjoyed over a decade of relative peace and stability compared to almost any other region—reinforced by the fact that Australia has not been under direct military threat since World War 2—the requirement to remain prepared for the self-reliant defence of Australia has all the characteristics of a 'black swan' (see Figure 1).

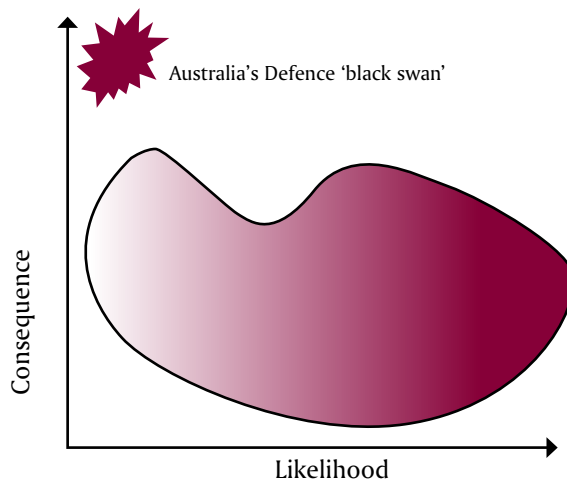
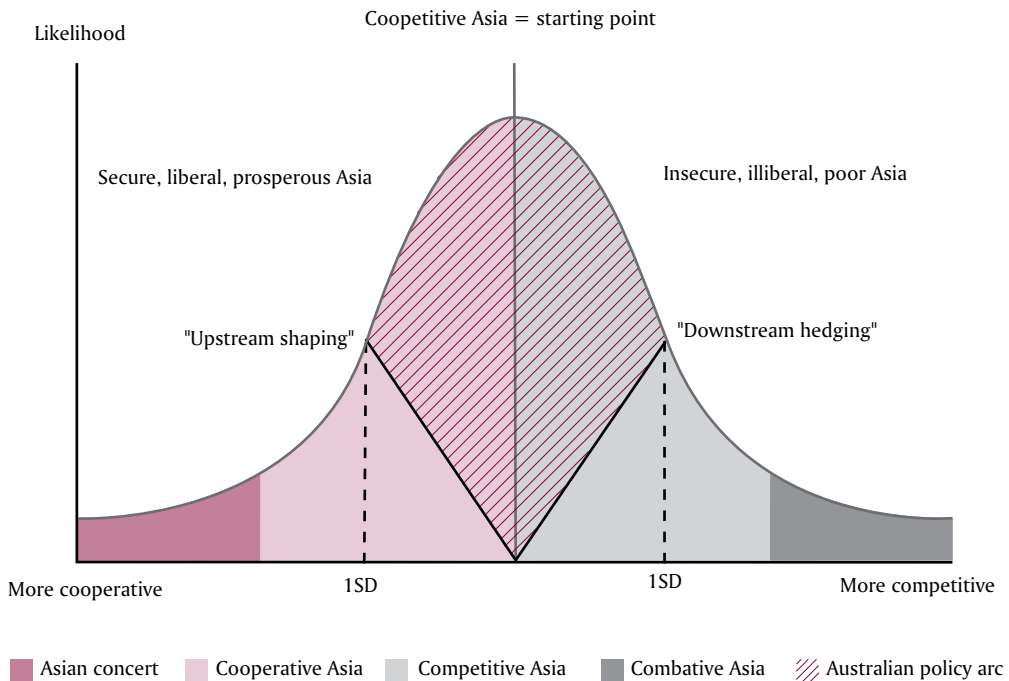


Figure 1: Australia's Defence 'black swan'

This perception is reinforced by the fact that the bulk of the ADF's operational activities since World War 2 (peace and stability, humanitarian assistance and disaster relief, and border protection activities) have been predominantly high likelihood contingencies which have had typically low consequences for Australia's direct national security and sovereignty. However, to argue that the calibration of Defence's preparedness posture should be based on these largely consistent operational trends spanning over half a century is likely to be flawed.

Such a contention risks exposure to what Guttentag & Herring (1986) and Cornand & Gimet (2012) describe as 'disaster myopia': a tendency for individuals and organisations to discount certain risks, especially regarding improbable yet potentially catastrophic events, during periods of optimism and stability. As major operations conclude, Defence and the Government more broadly should be careful not to succumb to 'disaster myopia' regarding preparedness for a self-reliant defence of Australia campaign. Indeed, ignoring Defence's 'black swan' exposes the nation to a significantly increased risk of possibly catastrophic consequence.

Lyon's (2012) 'Asian alternative' futures model (Figure 2) illustrates a spectrum of potentialities facing Australia in the Asia-Pacific century. It identifies a 'coopetitive Asia', which he explains is 'the Asia that's simultaneously cooperative and competitive' (2012, p. 30), as the most likely future scenario. Moreover, to either side of his designated 'high point', Lyon identifies two contrasting future extremes. To the left, he identifies an increasingly cooperative Asian future which, at its extremes, he describes as an 'Asian concert'. However, the further right one moves through Lyon's model, an increasingly competitive Asian future leads to a 'combative Asia' scenario.



**Figure 2: An 'Asian alternative' futures model**

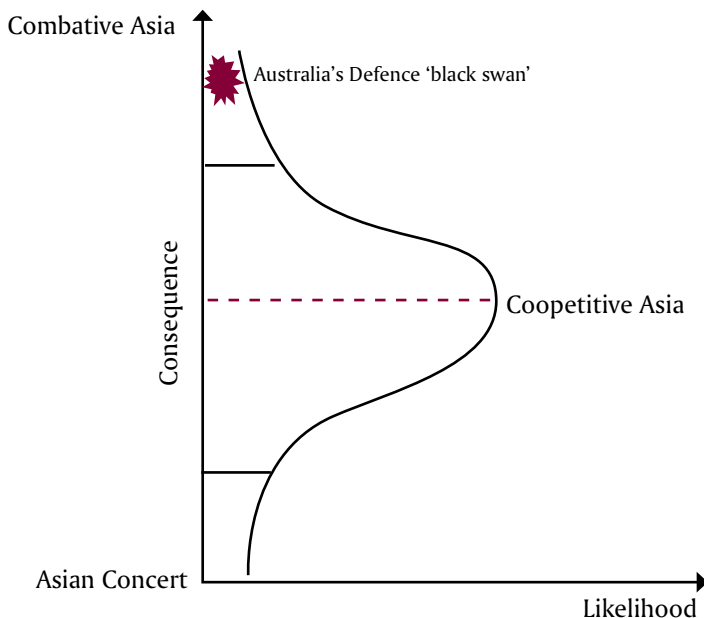
(Source: Lyon 2012, p. 30)

Both the extreme left (Asian concert) and extreme right (combative Asia) of Lyon's model are low likelihood scenarios. As he asserts:

Although the graph shows both the 'Asia of concerts' and the 'Asia of war' as 'definite line' events, they would really be more 'emergent conditions'. However, both are still best seen as relatively low-likelihood scenarios—closer to two standard deviations from the current environment than one (Lyon 2012, p. 30).

Lyon goes on to assert that Australia's policy setting should broadly calibrate around the arc of greatest likelihood, with the inbuilt adaptability to 'downstream hedge' should the regional environment become more competitive or 'upstream shape' should it become more cooperative (Lyon 2012, p. 31). Figure 3 broadly transposes Lyon's model at Figure 2 over Figure 1.

If it is accepted that regional dynamics are more likely to ebb and flow within the broad 'coopetitive Asia' scenarios, Defence's preparedness activities should strategically hedge the risks associated with a 'combative Asia' scenario, in which a defence of Australia campaign is necessary, while simultaneously ensuring the ADF has the capabilities and capacities to contribute to any future encompassing the 'coopetitive Asia' to 'Asian concert' set of scenarios.



**Figure 3: Defence's 'black swan' and Lyon's 'Asian alternative' futures model**

Defence funding will always be fiscally austere during strategically benign periods. As such, it is the combination of fiscal austerity and growing strategic uncertainty which underscores the necessity of the risk-based approach that adopts a defence of Australia campaign as the foundation for Defence's preparedness and mobilisation principles. In this context, Defence preparedness aims to understand the ends military strategy seeks to achieve, and provide the framework for the operationalisation of the ways and means to achieve those objectives.

However, the exact nature of a defence of Australia campaign – the central issue in Australia’s ‘great debate’ between expeditionary and continentalist schools – remains highly contentious yet typically not framed by Australia’s preparedness and mobilisation principles.

### **Australia’s ‘Great Debate’: Expeditionary v Continentalist**

Contrary to Palazzo’s (2012) contention that the Australian Army, and by extension Defence, is not engaged in a future war debate, these discussions occur regularly and with similar passions as the ‘great debate’ in the US between the Gentile (conservative) and Nagl (crusader) schools (for more see Bacevich 2008). For one, the expeditionary and continentalist approaches have broadly defined Australian defence debates since Captain William Creswell and Colonel Hubert Foster first clashed over a century ago.

Continentalists point to Australia’s geography to emphasise the importance of ensuring the Navy and Air Force have the capabilities to defend the north and north-western approaches, or point to the apparent failings of expeditionary campaigns (for example, Stephens 2007, p. 40) to support their contentions. In contrast, expeditionary proponents suggest that Australia’s borders and land mass are too large and the ADF too small for a ‘fortress Australia’ campaign. These ‘force projectionists’ assert that the projection of land forces northwards is the key to Australia’s defence and, moreover, the development of expeditionary forces reflects the dominant trend in 21st century warfare (that is, counter-insurgency and hybrid warfare), therefore posturing the ADF for its most probable future operational contributions (Evans 2007, p. 9).

Australia’s ‘great debate’ continues but the realities of joint 21st century warfare are rendering the ‘puritans’ of either school increasingly obsolete. Moreover, the lack of consensus regarding the optimum strategic solution—whether expeditionary, continentalist or a hybrid—requires a hedging approach framed by Defence’s preparedness and mobilisation principles.

While the expeditionary-continentalist debate is intellectually interesting, the strategic and operational reality is that a defence of Australia campaign against conventional military forces will more than likely require a combination of both force projection and ‘fortress Australia’ principles. Indeed, the two schools of thought are, and indeed must be, compatible in a joint defence of Australia campaign. Air and naval capabilities will need to deny adversaries access and control through the north and north-western approaches. Equally, land forces will inevitably need to project into the region, especially onto the ‘land bridge’ to Australia’s north to not only deny and control land access but assist and reinforce the effects of the adjoining air and naval campaign.

To effectively hedge strategic risk to deal with the strategic and operational constraints of a defence of Australia campaign, Defence’s preparedness activities and mobilisation planning should avoid an over-commitment to either school of thought. Perhaps a more useful debate would be how expeditionary (force projection) and continentalist (fortress Australia) principles could be unified in a joint campaign within Defence’s preparedness and mobilisation framework.

## The centrality of Defence's 'Black Swan' to preparedness and mobilisation

The self-reliant defence of Australia remains Defence's *raison d'être* through Defence White Papers since 1976 (see Frühling 2009). The Chief of Defence Force, General David Hurley, unequivocally affirmed Defence's position when stating:

The two questions that we must continue to ask—and must never be complacent about—are what is our best contribution to the security and stability of our neighbourhood, and what sort of ADF will best support that? But just as we ask those questions, we must always keep in view the reality that our primary obligation is to support our own security and to provide for the capacity to defend ourselves (Hurley 2012, p. 8).

The defence of Australia-centric approach to preparedness and mobilisation ensures that Australia has the capabilities and concomitant capacities to continue to engage in the types of operational activities that have characterised much of the last 70 years while also maintaining baseline preparedness requirements for future mobilisation.

Preparedness has evolved considerably in the last decade, driven by several factors, including a strategic and operational emphasis on advancing 'joint' military capabilities and capacities, an increasingly 'whole of government' approach to national security, the diversification of operational requirements expected of Defence by government, and fiscal austerity. The Chiefs of Services Committee established preparedness as the concept to unify policy, strategy, capability development and force generation. To these ends, Defence's approach to preparedness management seeks to provide:

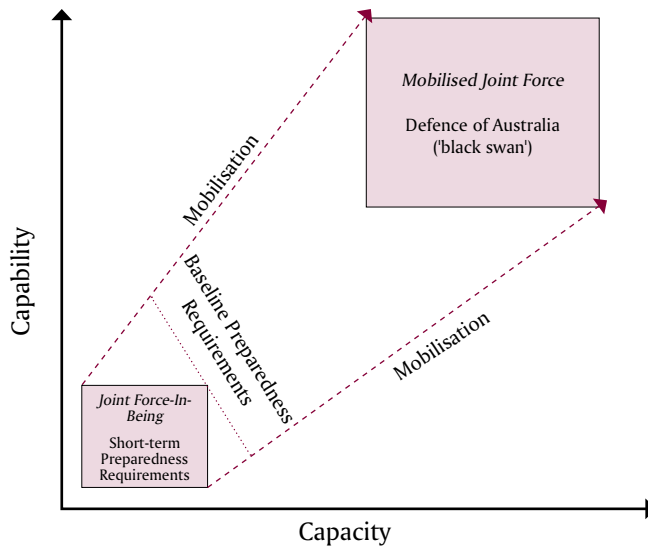
The sustainable capacity of Defence to deliver a prepared Joint Force-In-Being (JFIB), able to accomplish directed tasks and to provide contributions to Government, for emerging issues and events that affect Australia's national interests. This is achieved through a whole-of-Defence governance system of preparedness management which:

- provides Defence resources to understand and shape Australia's strategic environment;
- efficiently provides effective JFIB contributions, within the limits of allocated resources, to meet Government's requirements in response to changes in Australia's strategic environment;
- requires the coordination of force generation activities to achieve prescribed training standards (competencies and currencies) for both 'baseline' and more immediate short-term preparedness requirements; and
- comprehends the constraints and limitations of the JFIB and its supporting capabilities, as a basis for expansion through mobilisation, should strategic circumstances deteriorate or a substantial threat eventuate.

(Vice Chief of Defence Force, 'Definition of Preparedness')

## Defence preparedness and mobilisation

As illustrated in Figure 4, central to Defence's preparedness activities and planning is the interrelationship between short-term and baseline defence preparedness requirements that contribute to the prepared JFIB and Defence's ability to mobilise for the defence of Australia. This highlights the close relationship between preparedness activities, especially the maintenance of baseline preparedness requirements, and the ADF's ability to mobilise in the future.



**Figure 4: Preparedness and mobilisation**

This article now explores the relationships between baseline requirements, strategic warning time and mobilisation within the context of Australia’s self-reliant defence principle.

### **Baseline requirements: the foundation**

Defence’s baseline preparedness requirements represent the minimum threshold of capabilities and capacities necessary for the JFIB to retain the skill, knowledge and aptitude for employment in operational activities while also providing the foundation from which mobilisation occurs (Figure 4). Government expects Defence to maintain a ‘baseline’ preparedness requirement, as well as the ability to respond to potential ‘short’ (up to two years into the future) and ‘long-term’ (five to 30-year timeframe) contingencies.

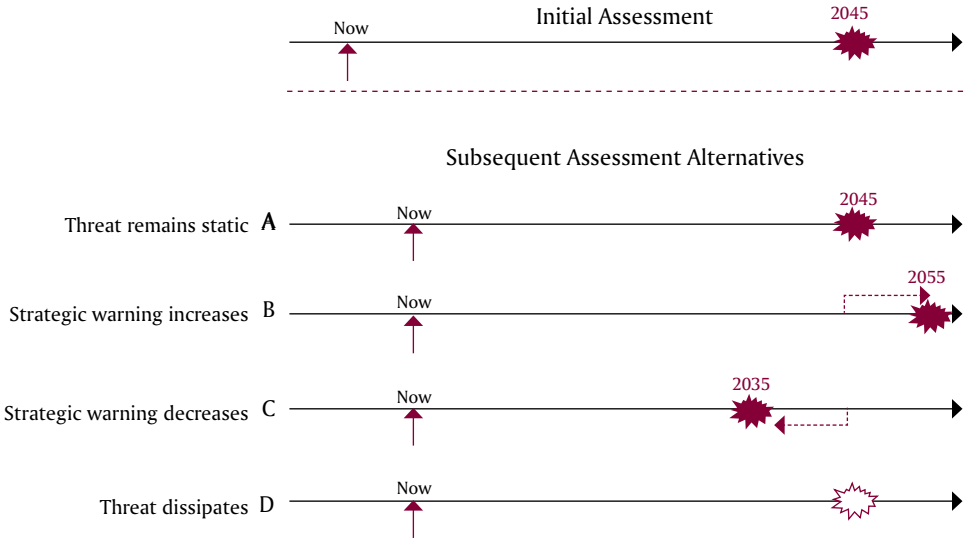
Balancing these competing demands is necessary to ensure that Defence retains the ability to mobilise within a strategic warning time if threatened by a conventional military adversary. While Brabin-Smith’s (2012) excellent analysis of force expansion and warning time in Australian defence strategic policy focused on the latter stages of the force expansion principle, it is not possible to comprehend the relationships between strategic warning time and mobilisation without also considering the capacity of preparedness activities to provide the foundation for force expansion if required.

As a hedge against potentially ominous changes in Australia’s future strategic environment, baseline preparedness requirements provide government with assurance that Defence can provide joint maritime, land and aerospace capabilities and capacities to generate high-end war fighting forces within a strategic warning time. The relationship between strategic warning time—based on regular assessments of Australia’s strategic environment—and Defence’s preparedness activities is crucial to the ADF’s ability to mobilise effectively.

### Strategic warning time

Intelligence assessments play an important role in Defence’s approach to preparedness and mobilisation. Should intelligence assessments indicate an emergent conventional military threat with the plausible intent to attack Australia and its interests, a decision may be made to commence mobilisation activities. Figure 5 illustrates the relationship between potential assessments of Australia’s strategic environment and its impact on strategic warning time.

Balancing preparedness posture with strategic warning time enables Defence to adapt to changes in the strategic environment, underscoring the close relationship between preparedness strategists and the intelligence community. As Aclin (2012) asserts, ‘[t]he job of the strategist—and the particular role of intelligence in the development of strategy—is to assess the outlines of uncertainty and develop plans to deal with it’ (2012, pp. 261-2). For example, an initial assessment (Figure 5) may indicate a potential military threat against Australia emerging in 2045. The time differential between ‘now’ and 2045 broadly reflects Defence’s warning time period within which force expansion and mobilisation may need to occur.



**Figure 5: Defence preparedness and strategic warning time in an evolving strategic environment**

There are four potential assessment alternatives that may subsequently influence the interrelationship between strategic warning time and preparedness activities. Firstly, as illustrated by timeline A, a future assessment confirms the initial assessment that a threat is likely to emerge in 2045. However, the strategic warning time for the ADF has reduced by the time differential between the initial and subsequent assessment.

Secondly, timeline B shows that the subsequent assessment considers the threat to have been extended out to 2055. This shift could be due to changes in a potentially malevolent nation’s government, growing fiscal constraints, internal unrest diminishing potential capacity

or problems in capability development. Conversely, timeline C suggests that a significant change has occurred in the strategic environment, resulting in a 20-year reduction in strategic warning, which has rapidly increased the ADF's risk of having to engage in a defence of Australia campaign. Finally, timeline D represents a situation in which the threat is assessed to have dissipated.

This simplistic representation illustrates how changes in Australia's strategic environment impact on strategic warning time, with significant repercussions for Defence's baseline preparedness requirements and ability to mobilise. It also highlights the increased risks inherent to basing preparedness posture around operational trends rather than the defence of Australia principle. Should Defence adopt an approach to preparedness that placed Australia's 'black swan' contingency to the periphery in order to focus on the ebb and flow of operational activities (short-term preparedness requirements), it risks doing so at the cost of sustaining the baseline preparedness requirements necessary to effectively mobilise within a strategic warning time.

Preparedness for short-term and baseline requirements are often mutually supportive but the distinction unclear, as the former is often the 'free good' of preparing for the latter. For instance, as represented in Figure 1, many of the ADF's current operations (for example, peace and stability operations in Afghanistan) provide personnel with opportunities to use capabilities and enhance their skills and knowledge that support the maintenance of baseline requirements. Without the maintenance of baseline capabilities and capacities during benign strategic periods, Defence is unlikely to have a sufficient base from which to mobilise if required in the future.

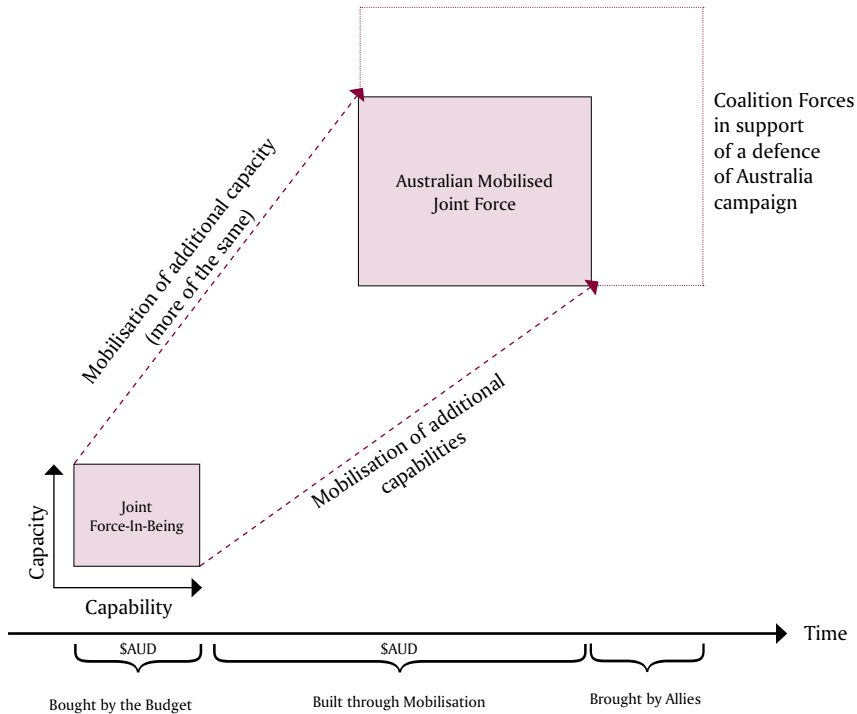
## **Mobilisation**

Mobilisation is intimately tied to Defence's preparedness requirements (see Figure 4). The exact capabilities, capacities, skills and knowledge of the mobilised JFIB will depend on the military threat in response to which Australia is mobilising. In other words, the nature of force expansion and mobilisation will be dependent on the assessed threat and strategic warning time generated by Australia's intelligence services.

However, the capabilities on which defence bases its mobilisation plans need to provide a credible force both in terms of effect in the battle space and as a foundation for force expansion. For example, reservists are often identified as a capability ready-made for force expansion. However, given that 14 per cent of reservists are either employees or volunteer members of civilian emergency services (Department of Defence Census 2011 Public Report 2012, p. 31), this may diminish their mobilisation potential.

Figure 6 illustrates the three 'Bs' of preparedness management with respect to mobilisation: bought, built and brought. Baseline preparedness is the foundation for force expansion with regard to the capabilities and capacities bought by the government. Mobilisation builds on this base to generate a mobilised joint force. Finally, the capabilities and capacities brought by Australia's partners represent the final component of a joint force mobilised for the defence of Australia. The exact capabilities and capacities required for such a campaign would be informed by intelligence assessments. Intelligence reporting not only shapes planning for what is bought as baseline and built during mobilisation but also the contributions potentially brought by coalition forces.





**Figure 6: Bought, Built and Brought**

## Summary

The defence of Australia principle underpinning Defence’s preparedness and mobilisation activities and planning exemplifies the risk-based focus of the ADF and the central guiding principle of Australia’s approach to national security (see Rudd 2008). Preparedness acts as a unifying mechanism to connect policy, military strategy and cost realities. In return for its annual budgetary allocation, Defence maintains ‘baseline’ preparedness requirements while remaining postured to meet the preparedness contingencies more probable in the short term.

To be effective, strategic hedging requires the ADF to both engage in operational activities in support of the national interest while maintaining an adequate foundation from which to mobilise. For government, the decision to strategically hedge against a future ‘black swan’ contingency means that constraints on the Defence budget during benign strategic periods will require a much greater fiscal commitment in the future should mobilisation be necessary. Ultimately, strategic hedging is only appropriate if the budgetary allocations during strategically-benign periods ensure the sustainment of appropriate baseline preparedness.

Under circumstances in which Australia is under direct military threat, future mobilisation would be reliant on significant access to government outlay to effectively transform capabilities and capacities necessary for the defence of Australia. The critical challenge here is determining what is (and what is not) possible through mobilisation, and understanding the implications for the force structure design of the joint force.

## The budget debate: contextualising the discourse

The central issue driving most of the current debate is concerned with the implications of further budgetary constraints on the ADF. However, much of this debate’s pragmatic value could be greatly improved if the commentary was contextualised by the realities of Defence preparedness and mobilisation. Figure 7 illustrates the interrelationship between baseline preparedness requirements, directed level of capability—the level of preparedness funded by the budget—and operational level of capability, the capability level necessary for a particular operation. If budgetary constraints are insufficient to sustain Defence’s directed level of capability above a baseline preparedness level, then the warning times required to reach an operational level of capability significantly increases. Consequently, decisions to increase preparedness levels or commence mobilisation will need to be made significantly earlier.

If directed level of capability is maintained below baseline levels, considerable financial contributions will need to be made more frequently and over a longer period of time to meet operational level of capability needs. Conversely, it is likely to be both fiscally and strategically irresponsible to pursue an unnecessarily large suite of capabilities that is not concomitant with the ADF’s capacity, the requirements of the strategic environment or the government’s ability to finance the development and maintenance of such a force. Indeed, such an investment may commit Australia to capabilities that may be obsolete if and when a major conventional force threatens Australia in the future. Finding the balance between these two extremes is arguably the major strategic challenge facing Defence.

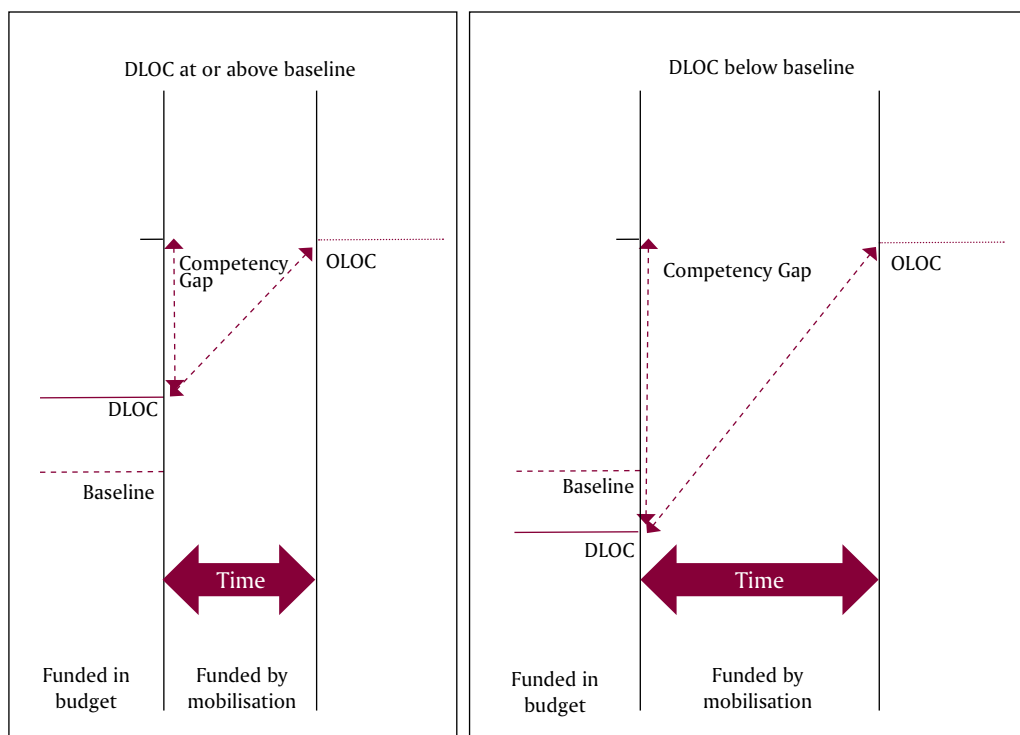


Figure 7: Interrelationships between baseline, directed and operational levels of capability

The debate surrounding the implications of budgetary constraints on the ADF would benefit from being placed into the context of a common framework of analysis to facilitate a more effective evaluation of the merits of each perspective. While this paper does not engage in a critique of any specific commentary, it is useful to consider two common assertions that have emerged from the recent debate. For example, calls for an aspirant list of capabilities (such as Leahy 2012) detached from budgetary limitations dislocate the argument from preparedness and mobilisation strategic risk management.

As such, discourse that does not discuss a baseline preparedness for new or existing capabilities, as well as how such capabilities should function as an expansion base for mobilisation, are difficult to evaluate and have limited pragmatic value. Indeed, any discussion of capability or strategy that does not consider budget limitations, for all its worth as an intellectual exercise, is ultimately fanciful. As former Defence Secretary Duncan Lewis stated, ‘We have to be able to talk dollars and strategy’ (2012, p. 8). Lewis went on to assert:

I’m not saying that strategy shouldn’t be bold or ambitious. It certainly should be both of those things. But it also needs to be tempered by reality, affordability and informed by the thinking and tasking of other Government agencies (2012, p. 8).

Another argument that often seems to enjoy broad appeal suggests that the ADF is currently incapable of a self-reliant defence of Australia campaign, let alone having the military strength of a ‘middle power’, and this requires a significant expansion of ADF capabilities and capacities or a significant rethink of Australian defence policy and strategy given current fiscal austerity (for example, White 2012). This assertion may have its merits but, without being grounded in a preparedness and mobilisation context, it can appear to overlook many of the key issues outlined in this paper.

For instance, if White’s (2012) contentions were framed within the context of baseline preparedness, warning time and mobilisation, it would provide better clarity to his assertions and allow them to be seriously evaluated. Preparedness and mobilisation principles ground defence debates in fiscal, strategic and capacity realities. Without this grounding, the ability to effectively evaluate defence commentary on a broad range of issues—from capability procurement and personnel training to military strategy, force generation and defence policy—is significantly diminished.

## **Conclusion**

This analysis has briefly explored the underlying principles of a self-reliant defence of Australia-centric approach to Defence preparedness and mobilisation. To help contextualise much of the current debate about defence issues, the paper has explored how preparedness and mobilisation functions as a framework underpinning Australia’s strategic hedge appetite. It has also examined why the less probable event of a self-reliant defence of Australia remains Defence’s key focus.

There are many challenges in hedging against fluctuations in budgetary allocations and a fluid strategic environment. Successfully navigating these challenges is reliant on both the maintenance of baseline preparedness and the assessment of potential threats to determine sufficient warning time for either changes to preparedness levels or mobilisation. Defence budgets that are only sufficient to sustain preparedness at levels below a baseline preparedness

will mean that Defence may only be able to provide selective (and perhaps even limited) contributions to government requests in the short term.

This places significant risks on Defence's ability to retain a preparedness posture which can effectively function as a basis for force expansion via mobilisation. The self-reliant defence of Australia remains Defence's *raison d'être* and provides the focus to mitigate these challenges. Succumbing to the effects of 'disaster myopia' and dismissing Defence's 'black swan' exposes the nation to potentially catastrophic consequences in the future due to short-sightedness in the present.

The challenges facing Defence are significant and have enormous implications for Australia and the region. Commentary that simply focuses on capability types and platforms or calls for a larger or smaller number of capability platforms, without being grounded in a preparedness and mobilisation context, degrades the debate into a series of simultaneous monologues characterised by negative proof arguments. Such discourse does not allow for an effective evaluation of the merits of one perspective over others.

Grounding the debate within a common framework, at the very least, facilitates a more pragmatically valuable exchange of ideas that can be more effectively evaluated. Answers to the hard questions facing Defence can benefit from the passionate debate, both within and outside the Department, but only if it is framed within the harsh boundaries of fiscal and strategic realities. Moreover, the more that these debates are framed by the broad principles of preparedness and mobilisation, the richer and more pertinent the strategic discourse will be.

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# Counterinsurgency Lessons from the North-West Frontier<sup>1</sup>

Colonel Graeme Sligo, Australian Army

## Introduction

The British were engaged on the North-West Frontier (along the border of Afghanistan and what is now Pakistan) from 1849 to 1947, frequently involving actions against the local Pushtun tribes.<sup>2</sup> This article examines the counterinsurgency lessons that may be drawn from that era. Its context is political, strategic and civil-military, and is not a social or humanitarian analysis of British policies on the frontier.

The article argues that, particularly from 1901 to 1939, the British were successful because of good analysis within a strategic context of ‘ends and means’; the deep local knowledge of their civil and military officers; effective civil-military cooperation and sound administrative structures; and the intelligent application of non-military and military power and influence, which included at times the application of intense military force.

These conclusions are consistent with—and indeed have been influenced by—similar assessments in Christian Tripodi’s recent publication, *Edge of Empire*, in which he notes that:

... attention was consistently focused toward resolving the fundamental demand of the grand-strategic level; the effective and calculated relation of ends and means to achieve policy objectives.<sup>3</sup>

## The lessons

### *Strategy and tactics*

The British were ultimately successful on the North-West Frontier because they thought strategically about what they were trying to achieve.<sup>4</sup> The underlying strategic context was the so-called ‘Great Game’ being played out between the British and Russian Empires for control of the East, where Great Britain perceived its overseas interests menaced by a Russian pincer movement, one prong of which was aimed at Constantinople, the other at India via Central Asia.<sup>5</sup> Within this context, management of the frontier was merely a ‘means to an end’—the ‘end’ being the securing of British India from foreign incursion.

After decades of inconclusive skirmishes, the British negotiated a border, the Durand Line, with neighbouring Afghanistan in 1893.<sup>6</sup> This gave the British some certainty, if not stability, in their ability to stave off any possible Russian advance through Afghanistan. Importantly, it gave them access to the major mountain passes and a sounder defensive zone. The problem then became how best to ‘manage’ the border and its fringes, a zone inhabited by a number of ‘difficult’ Pushtun tribes. The British decided that the border must not be treated in an arbitrary, linear fashion but as a more amorphous, permeable and cultural phenomenon. The result, in 1901, was the creation of a separate border zone, with its own legal regime, to be called the North-West Frontier Province.

In managing this province, the British implemented a number of strategies. Firstly, they restricted the strategic space of the tribes, by constraining them to their own areas and preventing any spill-over of conflict into adjoining areas. Secondly, and at the same time, the British permitted the tribes the tactical latitude to release their surplus reserves of energy and burn themselves out in a controlled environment. Thirdly, they held firm to the view (indeed, a primary objective) that any cessation of hostilities would need to be initiated by the 'recalcitrant' tribes, with the peace then negotiated on British terms.<sup>7</sup> Finally, the British allowed the tribes autonomy to settle their internal legal disputes.

In terms of tactical developments, the British had to deal with better armaments and better tactics among the tribes as time went on. By 1925, they had developed *The Manual of Operations on the North-West Frontier of India*, and both British and Indian Army units began to absorb its lessons, especially when they were stationed adjacent to the frontier and took the time to train for mountain warfare.<sup>8</sup> However, there were still failures, such as the 1936-37 operations in Waziristan, where the Argyll and Sutherland Highlanders suffered unnecessary casualties because of their failure to adapt to frontier warfare techniques. By 1939, new and improved doctrine had been developed, published in *Frontier Warfare (Army and Royal Air Force) 1939*, incorporating all-arms lessons, mechanisation, frontier techniques and air operations in the one volume.<sup>9</sup>

Nevertheless, it was not quite a 'modern' approach to counterinsurgency. The British strategic 'ends and means' equation was not about building Pushtun acceptance of the political status quo, nor building a society that was settled and had the benefits of British economic, social and humanitarian endeavours. The British had long concluded that endemic warfare was the norm for the Pushtun tribes and that there was little the British could do to encourage them into some form of polity. So the main aim was to secure the frontier against foreign adversaries—while accepting some risk in leaving an ungoverned strip of territory with a large measure of tribal autonomy—allowing the vast bulk of British India's inhabitants to go about their lives in a settled way, subject to the rule of law (albeit without democracy).

However, the British approach did emphasise some attributes of successful modern counterinsurgency doctrine. Firstly, the prime focus of British forces was not the attrition of the tribes but about 'sufficient' attrition to bring them to the negotiating table or back under political control. Secondly, the British (both political and military elements) gave priority to the collection and analysis of human intelligence, as well as the use of tribal levies, local translators and British linguists. The British did not isolate themselves from the local inhabitants, recognising that locals were the element most likely to provide them with intelligence.

Thirdly, the British were not obsessed with force protection, although the best units and formations maintained their security by controlling the high ground as they advanced. Fourthly, the British Indian Army did not practise just 'reactive' tactics; the best units and commanders employed surprise, deception and aggression.<sup>10</sup> They also progressively integrated new weapons systems into their approach (an early example was the Maxim gun), as well as developing advances in infantry weapons, the air force and mechanisation, including the use of tanks.

These lessons were sometimes forgotten, notably at the start of the Waziristan campaigns in 1919 and 1936. And in terms of modern counterinsurgency doctrine, the British were not 'humanitarian' towards the local inhabitants, and employed the concept of 'hearts and minds'

only in a selective sense. They were quick to destroy ‘guilty villages’ and practised economic warfare on the tribes (although towards a negotiated objective). But they did try to select carefully the villages and targets associated with the ‘problem’ tribe and spare innocent areas (or tribes with whom they had no quarrel).

Finally, the British well understood the limitations of military force and how the enemy’s objective (and will) and one’s own (inter-related objective and will) clashed and intersected. The key perspective of the British approach was that it was predominantly non-military. The military was part of the ‘means’ but its ends were strategic and political—and military action was not an end in itself.

### ***Local knowledge***

When the Viceroy of India, Lord Curzon, carved out the new frontier province in 1901, it came directly under his control. Its Chief Commissioner and civil officers were members of the Viceroy’s own ‘Foreign and Political Department’, and not part of the Indian Civil Service. Within the province were a number of ‘agencies’, each under the control of a ‘political agent’, who had direct responsibility for managing the local tribes, ensuring the security of the border, administering justice (but allowing the tribes autonomy in their internal legal systems), commanding and administering local ‘civil forces’, and knowing and touring the tribes within his agency.<sup>11</sup>

In times of extreme civil disorder, the political agent could hand over authority to the military for a specific period of time, and the agent temporarily became the ‘political adviser’ to the force commander.<sup>12</sup> The British selected the political agents from a variety of backgrounds—from young Army officers, the universities and the Civil Service. But all had to be robust, prepared to spend their lives on the frontier, and have the human skills—leadership, diplomacy, character and impartiality—as well as a deep interest in the people and tribes of their agency.<sup>13</sup>

The British paid Pushtun society the compliment of close study and engagement, and insisted on the political agents having language skills in order to ‘know’ the people. George Roos-Keppel, for example, was an extraordinary Pashto linguist, and Caroe (as well as a great linguist) was an extraordinary scholar of the Pushtun people.<sup>14</sup> From about 1900 onwards, aspiring agents had to pass demanding Pashto examinations, including a practical examination consisting of lengthy interviews and cross-examination of tribesmen. The intention of the Department was not ‘effortless fluency’ but to enable the political officer to understand the subtleties of what a tribesman might imply but not state.<sup>15</sup> In their demeanour with tribesmen, one young political officer was advised:

Never lose your temper, though you may sometimes pretend to lose it. If you want to be rude to someone never do it before witnesses. Frontiersmen have a powerful sense of *izzat* (honour) or *ghairat* (self-respect) and great harm can be done by wounding them unintentionally.<sup>16</sup>

Recent contemporary advice is more succinct: never make an empty threat, never make a false promise, and always resolve disputes and matters in accordance with tribal custom.<sup>17</sup>

While there were many approaches to governance, one of the tools the British used on the frontier was allowances, subsidy and bribery. The political agent would, at regular intervals, pay a subsidy to the tribes. Indeed, in Pushtun custom, foreigners who traversed the area



were required to pay a form of subsidy in any event. The British also used the system in reverse. When there was ‘bad behaviour’ by a particular group, the British would demand and exact a fine—and use the threat of armed force to enforce it. Similarly, the British used other economic tools, including economic blockade of a tribal area or, *in extremis*, the destruction of economic property. On the positive side, they could award contracts or provide jobs, from the employment of village police to the granting of large-scale employment in road-building projects and the like.

The British developed a good intelligence system. They improved the system in the 1920s, achieving greater coordination and centralised assessment of material from the political officers, the police and the military. The British were not averse to what today might be called ‘information operations’, and there were occasions where they played one tribe off against another. A fundamental principle, however, was to allow independence and autonomy for the tribes. An important element of this was allowing the tribes to settle legal matters and disputes through their own processes. As Caroe stated:

The point to realize is this. Pathan custom requires the satisfaction of the aggrieved rather than the punishment of the aggressor. The law as we understand it concentrates against the aggressor, and compensation for the aggrieved hardly enters the picture. The Pathan in fact treats crime as a kind of tort.<sup>18</sup>

Finally, the British set up a system of armed force directly under the political agents, called the ‘armed civil forces’. It had different levels, from the village to the frontier constabulary to militarised formations, such as the South Waziristan Scouts, Tochi Scouts and the Khyber Rifles.<sup>19</sup> This gave the political agents the flexibility to use armed force directly, without having to go through the protocols of calling out the Army. It was not a pleasant solution or recourse, but it was highly responsive and it gave both validity and sanction to the political agent’s statements and promises.

While we should be wary of contemporary parallels, it is interesting to note that few Western nations with forces and civilians in Afghanistan today would have the breadth and depth of local experience such as the British developed in their political service in the North-West Frontier Province.<sup>20</sup>

### ***Effective civil-military cooperation and sound administrative structures***

In this context, the British had some effective antecedents. John Shy and Thomas Collier have remarked on the British approach to unconventional (and revolutionary) warfare:

The British response [was] ... like that of their colonial tradition at its best: tight integration of civil and military authority, minimum force with police instead of army used when possible, good intelligence of the kind produced by Special Branch operatives, administrative tidiness on such matters as the resettlement of civilians in habitable, sanitary camps, and a general readiness to negotiate for something less than total victory. On the military side, British colonial experience showed again its capacity to train effective local forces, a patient view of the time required for success, and a preference for the employment of small, highly skilled troops in well-planned operations rather than the massive use of large numbers and heavy firepower.<sup>21</sup>

Although there were miscalculations by both the civil and military sides, the period on the frontier for the British, from 1901 to 1939, was a success story in civil-military cooperation. There were local resentments and jealousies, and there were periods of tension, even a war in 1919. But overall it was a successful civil-military partnership.

Cooperation between the civil authorities—the Chief Commissioner and the political agents—and the British Indian Army was satisfactory and better run by the British than many comparable foreign governments and armies of that period. That is not to deny that problems existed. Not unusually, some in the military thought the ‘politicals’ were weak, indecisive and favoured the tribes, while the politicals thought the soldiers were unsubtle, over-interested in large-scale campaigns and garrisons, and lacked even rudimentary knowledge of tribal affairs, culture and politics, and had no understanding of Afghan and foreign susceptibilities. Of course, both points of view were exaggerations.

Some clear-cut cases of tension were when Curzon’s blockade of the Mahsud in 1901-02 had to be supplemented with military action, and ongoing disagreements over Waziristan in the 1920s and 1930s. However, these matters have to be seen in perspective and, in terms of British interests and long-term strategy, the system worked relatively well. There was a mechanism for graduated response, with the armed civil forces under a political agent graduating where necessary to military control of certain areas when a campaign or expedition became necessary. While Waziristan was a special case, most of the blame (for the 1919 initiation anyway) lay with Afghanistan, not with the British.

When the British needed to intervene with military force in a substantial way—as they did in 1919-20 and 1936-39—they did so decisively.<sup>22</sup> But they had ‘antennae’ and were sensitive to when a resolution could be negotiated with the tribes. A so-called ‘military solution’ and complete occupation of the province was never seriously contemplated after 1901, although portions of Waziristan had a military emphasis (but under political control) for certain periods in the 1920s and 1930s. Even there, the civil government sent some outstanding political officers into the two Waziristan agencies, and appointed some superb military officers (on secondment to the political agents) to command the local forces.

### ***Intelligent application of non-military and military power and influence***

To use an unfortunate (if common) turn of phrase, ‘the dominant narrative’ in British-Pushtun relations was civil and political, and not military, even if the military aspects garnered the greater publicity. Although many of the British officers did not like it, the British Army and the (British) Indian Army were subservient to the civil power. There were exceptions, and the civil side grew particularly concerned with the degree of Army influence in Waziristan later in the period.

The tools of power and influence were numerous. On the civil side, there were the personality, character and language skills of the political agents in dealing with the tribesmen. There was the system of allowances. There was the judicial system, which allowed the tribes autonomy in imposing the law, and there were the armed civil forces—from local policemen to the military sanction of the Scouts—as a graduated response.

On the military side—in relation to the application of military power—there were difficulties. But after a period of military operations, the civil side would again take control and reassert primacy. An analysis of the period also shows that there were not always ‘incessant disputes’

between the British and the Pushtun tribes, as some histories would suggest; instead, 'periodic' disputes would be a more apt description. Of course, there were often ongoing disputes between the various tribes themselves. But even in Waziristan, there were no major military campaigns between 1925 and 1936.

Internal to the military, the British had difficulty in retaining and propagating the 'lessons learned' from the frontier campaigns on an ongoing basis. This was particularly so during the First World War and its immediate aftermath, when British Army Territorial battalions were used in the North-West Frontier Province. Frontier (or mountain) warfare was often a contest of soldier-on-soldier where, because of the harsh and precipitous terrain, the usual Western advantage of 'mass' was difficult to apply.

Indeed, a key lesson from the frontier campaigns is that one must never underestimate an adversary who understands the ground intimately, is fighting on his home terrain, has strong tactical abilities, and who can operate on light scales, without the drain of heavy logistics. Specialised warfare schools and effective and 'absorbed' doctrine are essential for any Western army fighting in such an environment. The moral dimension also has to be understood, and the British did not always understand the 'drivers' and belief systems at work on the frontier.

At the tactical plane, the British did become more adept at using and adjusting to new technologies, whether the Maxim gun or airpower, and integrating capabilities into all-arms teams. They were also successful in promulgating and teaching the 'lessons learned' and developing new doctrine, even if not every unit or senior commander was able or inclined to adapt. The British were most successful when they did not set patterns and when they surprised their tribal adversaries, for example by advancing on unexpected approaches or using night operations.

Even so, there was on occasions a failure at the military command level to learn lessons. The British official report of the 1919-20 Waziristan operations made it clear that soldiers must be highly trained—especially the infantrymen—in their basic skills, weapons training (especially fire discipline) and tactical training (including the use of ground), and that the soldiers must be well led.<sup>23</sup> The same report noted that vital for success was the principle of war of 'surprise'—the initiative had to be wrested from the tribesmen—as well as the principles of 'security' and 'offensive action'.

The key methods used in the 1919-20 campaign were air operations and, later in the campaign, night operations, including night ambushing. An important lesson was that all ranks needed to have an understanding of tribal tactics, the importance of not setting patterns, and operational security. By the time of the 1936-39 Waziristan campaign, the British had to re-learn many of these lessons, probably because too much responsibility for training and doctrine had been allowed to divest to unit level, with not enough emphasis on the high-level and ongoing, coordinated development of training and doctrine.

## Conclusion

Henry Kissinger has remarked that the conventional army loses if it does not win, whereas the guerrilla wins if he does not lose.<sup>24</sup> The genius of the British at that time—acting in their own self-interest—was to ruthlessly analyse the strategic problem they faced on the North-West Frontier of India and develop a 'means' which satisfied the requirements of their higher policy and strategy, while also risk-managing a series of complex tribal societies.

For these tribal societies, the British developed strong affection and empathy, and they studied the culture and learnt their language and dialects. We often tend to characterise the relationship in terms of the effect it had on the Pushtuns. But the relationship had many effects on generations of British 'politicals', civil servants and soldiers and their families, many of whom had great difficulty in later relating to their home country after working for decades on the frontier. Their service influenced British Army doctrine on 'small wars' (and later counterinsurgency doctrine). It also influenced how British civil servants and diplomats, and how British civil officers generally, conducted their administration at other overseas posts and colonies, as well as the British response to insurgencies and local nationalism, notably during the process of decolonisation from 1947 to 1980.

The events and themes of the history of British administration of the North-West Frontier do not provide a hand-crafted solution either to contemporary problems of the war on terror, or the local situation in Afghanistan. There are, however, some resonances which bear reflection in the contemporary context.

The British were ruthlessly pragmatic. Perpetual warfare was not an affordable or effective solution, so they had to secure and incorporate their key political objectives (border security of British India from foreign incursion) in the strategy, and jettison any over-expensive preferences. They used skilled diplomacy, notably in their dealings with the Amir of Afghanistan, and made a careful calculation of the possibility of regional accommodations and engagement. For British India, the strategic 'view' was from the capital (Calcutta or later New Delhi) and not from Rawalpindi or Peshawar.

By around 1901, the British had made an honest assessment of the Pushtun people and the likelihood of peaceful occupation. They decided to take the tribes and the people 'as they found them', rather than impose some utopian solution. They fashioned administrative and legal structures, and civil-military solutions, to fit the problem they faced. One factor the British did get right, and which bears contemporary study, is that they developed within their civil and military services a strong cadre of Pushtun specialists, with language and cultural skills, and long-term experience with the people.

From the British experience, we can also deduce that not all sections of a population (or tribes) are the same. What worked in Balochistan will not necessarily work in Waziristan. The British did not initially study intensively enough the differences between the different parts of the frontier. They had, however, with their cadre of political officers, the capacity to develop a depth of expertise across the frontier provinces. They also had the nous and flexibility to adapt the civil-military equation, where necessarily, more heavily towards the military side for varying periods of time. They also appreciated that the same approach will not always work effectively within each and every local area. And the British learnt how to restrict 'the strategic space' of the Pushtun tribes, yet understood the culture sufficiently to permit tactical latitude for the release of surplus energy.

On the military side, the British learnt the hard way that mountain (or frontier) warfare is a specialised skill, which requires the infantryman (and other soldiers) to be highly proficient in the basics, as well as being trained in mountain warfare and counterinsurgency.

In regards the principle of war of 'selection and maintenance of the aim', the British generally got it right. It primarily was a civil problem and they understood the bigger strategic picture;

that security on the frontier was a means to an end, but that military operations were not an end in themselves. Attrition and economic warfare were used but not as ends in themselves. They applied just enough attrition to coerce the 'problem' tribe to return to the negotiating table, enabling the civil power to reassert control. Ultimately, the frontier had to be managed primarily as a civil problem, albeit with local forces and the armed forces in reserve.

Perhaps the cautionary conclusion is best summed up by Lord Curzon, who said:

I do not prophesy about the future. [And] no man who has read a page of Indian history will ever prophesise about the Frontier.<sup>25</sup>

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## NOTES

1. This is an abridged version of a paper prepared for submission to the National Defence University (NDU) of Pakistan, where the author was a student in 2011-12. As the original (full) version makes clear, the author has written in the historical period of 1893 to 1939, and the 'lessons' should be considered within that context. The original paper will shortly be available on the Australian Defence College website, published as a Commander's Paper: see <<http://www.defence.gov.au/ad/>>. Both papers are published with permission of the NDU Pakistan.
2. The British defeated the Sikhs at the battle of Gujrat and annexed the greater Punjab in 1849, although there had been wars and British contact over the previous decades. After 1901, there were two significant provinces on the western frontier: Balochistan and North-West Frontier Province.
3. Christian Tripodi, *Edge of Empire: the British political officer and tribal administration on the North-West Frontier 1877-1947*, Ashgate: Farnham UK, 2011, p. 231, citing John Lewis Gaddis. The author is indebted to the insights in Tripodi's work.
4. Muhammad Yahya Effendi, 'Military Operations in Waziristan: From a Historical Perspective (1849-1947)', *Central Asia*, Issue 62, p. 8: see <[www.asc-centralasia.ed.pk/Issue\\_62/01-Military\\_Operations](http://www.asc-centralasia.ed.pk/Issue_62/01-Military_Operations)> accessed 12 February 2012.
5. Henry Kissinger, *Diplomacy*, Touchstone: New York, 1994, p. 151.
6. The Amir of Afghanistan (1880-1901) had earlier agreed to discourage Russian influence or incursions into Afghanistan. Afghanistan and Pakistan have differing views on the legal status of the 1893 Durand Line Agreement. The UK view (post-Partition) was that the Durand Line was the legal international frontier.
7. Effendi, 'Military Operations in Waziristan', p. 8.
8. Indian Army, *The Manual of Operations on the North-West Frontier of India*, Government of India: Calcutta, 1925: see <<http://www.worldcat.org/title/manual-of-operations-on-the-north-west-frontier-of-india/oclc/220628313>> accessed 25 July 2012.
9. T.F. Moreman, 'Small Wars and "Imperial Policing": The British Army and the Theory and Practice of Colonial Warfare in the British Empire, 1919-1939' in Brian Holden Reid, *Military Power: land warfare in theory and practice*, Frank Cass: London, 1997, pp. 114-7 and 120.

10. Effendi, 'Military Operations in Waziristan', p. 8.
11. Terence Creagh Coen, *The Indian Political Service: a study in indirect rule*, Chatto and Windus: London, 1971, pp. 4 and 47-54. See also Olaf Caroe, *The Pathans 550 BC – AD 1957*, Oxford University Press: Karachi, 1958, p. 470. The Curzon reforms re-fashioned and professionalised the earlier 'Sandeman system' of political agents and local levies developed for use in Balochistan.
12. John Masters, *Bugles and a Tiger*, Michael Joseph: London, 1956, p. 205.
13. As Christian Tripodi remarked in *Edge of Empire* (p. 225), 'the British showed a healthy measure of curiosity regarding those they administered'.
14. Geoffrey Wheeler, 'Obituaries: Sir Olaf Caroe, KCSI, KCIE, DLitt', *Asian Affairs*, Vol. 13, Issue 1, 1982: see <[www.tandfonline.com/doi/abs/10.1080/03068378208730062](http://www.tandfonline.com/doi/abs/10.1080/03068378208730062)> accessed 18 February 2012.
15. See, for example, Caroe, *The Pathans*, pp. 356-7. Also Tripodi, *Edge of Empire*, pp. 31-2.
16. Tripodi, *Edge of Empire*, p. 36.
17. Discussion with National Defence University students, Islamabad, December 2011.
18. Caroe, *The Pathans*, p. 355.
19. Chenevix Trench, *The Frontier Scouts*, Jonathan Cape: London, 1985, p. 53.
20. This point, on lack of continuity of service, compared to the British practice before the Second World War, has been made by a number of analysts, including in broadcasts by the historian Niall Ferguson.
21. John Shy and Thomas Collier, 'Revolutionary War', in Peter Paret (ed.), *Makers of Modern Strategy: from Machiavelli to the nuclear age*, Princeton University Press: Princeton, New Jersey, 1986, p. 854.
22. Military operations in Waziristan continued (at a lesser level) after the 1919-20 phase. There was British Army activity in the two agencies in 1920-23, and Royal Air Force operations in 1924-25.
23. General Staff Army Headquarters India, *Operations in Waziristan 1919-1920*, Superintendent Government Printing India: Calcutta, 1921.
24. Henry Kissinger, 'The Vietnam Negotiations', *Foreign Affairs*, Vol. 48, No. 2, January 1969, p. 214.
25. Quoted in Milan Hauner, 'One Man against Empire: The Faqir of Ipi and the British in Central Asia on the Eve of and during the Second World War', *Journal of Contemporary History*, Vol. 16, No. 1, January 1981, p. 17: see <[www.khyber.org/publications/021-025/faqiripi.shtml](http://www.khyber.org/publications/021-025/faqiripi.shtml)> accessed 21 October 2011.

# The Expectations of Strategic Air Power<sup>1</sup>

Squadron Leader Adrian Reeve, RAAF

## Introduction

Throughout modern history, the use of strategic air power has been contentious. Emerging from World War 1, the use of strategic air power through the medium of strategic bombing rose to prominence as an air power theory. Early theorists—notably Douhet, Trenchard and Mitchell—advanced the proposition that strategic bombing would enable the targeting of population and industrial centres leading to quick victories and reduced casualties.<sup>2</sup> Central to their theories was the concept that strategic bombing could achieve victory by itself.<sup>3</sup> However, whether strategic air power has been able to realise this expectation is a source of continuing debate.

This article will argue that the use of strategic air power has never realised the expectations of air power theorists. It firstly defines strategic air power and discusses its relationship to strategic bombing, the dominant theory associated with strategic air power. It then examines whether the central tenet of strategic bombing has been met—that strategic bombing is capable of achieving victory by itself—by analysing three air campaigns involving strategic bombing: the combined bomber offensive of World War 2, the 1991 Gulf War and the 1999 NATO campaign in Kosovo. The article concludes by examining how the assumptions that underpin strategic bombing theory have, at times, been flawed and resulted in strategic air power not meeting expectations.

## Defining strategic air power

The term ‘strategic air power’ is not specifically defined in current Australian, UK or US air power doctrine<sup>4</sup> and its definition is somewhat contested by academic commentators.<sup>5</sup> The broadest definition would seem to be ‘the employment of air power to achieve an effect against the opponent’.<sup>6</sup> However, the majority of definitions relate to the use of air power for strategic bombing—which is the focus of this article—although it is acknowledged that strategic air power relates not only to strategic bombing, and that non-kinetic uses, such as the 1948 Berlin airlift, may also generate strategic outcomes.<sup>7</sup>

UK doctrine notes that ‘in the past, the strategic use of air power was strongly associated only with kinetic attack [bombing] and usually with particular aircraft types’.<sup>8</sup> This link with strategic bombing is reflected in one definition of strategic air power as the ‘use of air forces to attack enemy states, its centres of population and its economy directly’.<sup>9</sup> Another defines strategic bombing as air operations which attack ‘fixed military, industrial or civilian targets in and near political or economic centers’.<sup>10</sup> However, in the view of another commentator, this definition is based on ‘outdated theories and criteria’, arguing that the target does not determine whether the attack is ‘strategic’.<sup>11</sup> This line of thought is reflective of an effects-based approach to targeting, where the effect achieved rather than the target determines whether the attack is strategic.<sup>12</sup>

## An overview of strategic air power theories

The prominent strategic air power theories focus on its use to conduct strategic bombing. The strategic bombing theories of three early air power theorists—Douhet, Trenchard and Mitchell<sup>13</sup>—and the modern theorist Warden are dominant in the discourse and debate over whether strategic air power has met the expectations of theorists.<sup>14</sup>

Douhet, Trenchard and Mitchell each advocated theories of strategic bombing which would provide a nation with the means to bypass an enemy's defences and allow attacks against population and industrial centres in order to collapse an enemy's will and ability to fight.<sup>15</sup> They believed strategic bombing would prove to be the most decisive form of future warfare, allowing for quick victories without the need to defeat an adversary's ground forces or mount an invasion. The use of strategic bombing would also avoid the attrition of World War 1-type trench warfare.<sup>16</sup> Common to each of the theories was the concept that strategic bombing could independently win wars.<sup>17</sup>

Douhet, Trenchard and Mitchell's strategic bombing theories were a product of their time. All were strong advocates of independent air forces following World War 1.<sup>18</sup> For Clark, Trenchard's advocacy of strategic bombing 'seems not to have stemmed from some deeply-held and reasoned conviction' but rather to ensure the continued independent survival of the RAF during the 1920s.<sup>19</sup> Arguably, the early theorists' desire for independent air forces influenced their theories—and their claims about what strategic bombing could achieve. For Kainikara, the early theorists were guilty of overstating the case for air power.<sup>20</sup>

The most significant differences between the theories espoused by Douhet, Trenchard and Mitchell lay in the targeting strategies they advocated. For Douhet, the civilian population was the ultimate target of strategic bombing.<sup>21</sup> He considered high-explosive, incendiary and poison gas bombs should be used in order to create panic among the population targeted so they would turn against their government and demand hostilities cease. For Conversino, Douhet's theory involved 'widespread destruction and indiscriminate slaughter'.<sup>22</sup>

Trenchard proposed an approach where civilian morale could be indirectly undermined by attacking supporting infrastructure, including industry, economy, communications or transportation networks.<sup>23</sup> He considered the impact of bombing on morale was greater than the destruction achieved and did not advocate the direct targeting of civilians.<sup>24</sup> For Mitchell, civilian morale was to be broken by targeting an enemy's industry, infrastructure or agricultural interests.<sup>25</sup> Mitchell's theory would contribute to the development of the US Army Air Force's precision attack doctrine, where strategic bombing was used to target key nodes or bottlenecks in an enemy's industry.<sup>26</sup>

Warden rose to prominence as a modern air power theorist following the 1991 Gulf War.<sup>27</sup> His theory viewed the adversary as a 'system of systems' and relied on improvements in air attack capabilities, including precision-guided munitions to allow selective targeting of decisive centres of gravity.<sup>28</sup> Warden's targeting strategy—the five rings model—conceptualised a series of five concentric rings radiating out in priority order, from leadership in the centre and processes, infrastructure, population and fielded forces forming the outer rings respectively.<sup>29</sup>

Warden's strategic air power theory involves 'parallel warfare'—simultaneous air strikes focused on leadership, and command and control targets—aimed at achieving strategic paralysis rather than attacking the enemy's economy as proposed by Mitchell.<sup>30</sup> Similar to early air power theorists, Warden believed his theory would allow the use of air power to



attack strategic targets without the need to engage enemy ground forces, and advocated independent air operations.<sup>31</sup> In contrast though, his theory also emphasises the avoidance of civilian casualties, recognising an increasing sensitivity to collateral damage.

## Unmet expectation

A central tenet of strategic bombing theory, as advocated by the early air power theorists, is the proposition that strategic bombing could achieve victory by itself, and avoid the need to engage an adversary's ground forces.<sup>32</sup> Warden's claims are slightly more nuanced in this regard, suggesting that strategic air power could, in some circumstances, be decisive by itself.<sup>33</sup> However, is there evidence that strategic bombing has met this expectation of air power theorists? This claim remains a source of controversy and debate, as old and new conflicts involving strategic air power are examined against the claims of strategic air power theories.<sup>34</sup>

One example is the contribution of the combined bomber offensive—the first major test of UK and US strategic bombing theory—to the allied effort in World War 2.<sup>35</sup> Werrell considers the three major achievements of this offensive were 'the defeat of the German Air Force, the diversion of the German war machine and the destruction of key elements of the Germany economy'.<sup>36</sup> While acknowledging this contribution, Werrell also notes that the pre-war promises exceeded the results.<sup>37</sup>

For Biddle, air power was 'tremendously important' but achieved its best results in collaborating with the other services.<sup>38</sup> Mets agrees, noting the *United States Strategic Bombing Surveys* considered that air power generally, not strategic air power, was 'decisive'.<sup>39</sup> Counter arguments to this view have focused on the impact of strategic bombing on the German oil industry and claims that if the bombing offensive had commenced earlier, or had been larger or had not been diverted to supporting the Normandy campaign, strategic air power could have won the war earlier.<sup>40</sup> The preceding discussion demonstrates the difficulty associated with determining the contribution that strategic air power made to a given conflict and whether it has met the expectation of theorists—that is, it seems very much to depend on the perspective.

Importantly, in determining whether the use of strategic air power has met the expectations of theorists, strategic bombing theories remain untested in isolation. Douhet's theory on the decisiveness of a mix of poison gas, incendiaries and high-explosive bombs against civilian morale has never been tested as part of a strategic bombing campaign.<sup>41</sup> While Warden's strategic air power theory formed the basis for the 1991 Gulf War strategic air campaign, the strategic air campaign represented only a small part of the overall coalition air effort, with only 11 per cent of strikes conducted against strategic targets.<sup>42</sup>

The 1991 Gulf War has been used by strategic bombing advocates as an example of where the use of strategic air power met the expectations of theorists.<sup>43</sup> Warden's original plan proposed striking 84 strategic targets in a conventional strategic air campaign, over a 5-6 day period, in order to cause strategic paralysis.<sup>44</sup> According to Warden, its execution would have resulted in the withdrawal of Iraqi forces from Kuwait, providing a decisive 'air-only' solution.<sup>45</sup> However, the final air campaign looked very different, with a heavy focus on air strikes against fielded forces in Iraq, a target set Warden had not included in the original plan.<sup>46</sup>

The scope of the strategic air power's contribution to the 1991 Gulf War conflict remains contested.<sup>47</sup> For Warden, the strategic air campaign was successful, as Iraqi command and

control, oil industry and electricity supply were disrupted.<sup>48</sup> Olsen agrees, noting that the strategic air attacks 'contributed strongly in rendering the Iraqi leadership ineffective as a strategic entity'.<sup>49</sup> O'Connell counters, arguing that the results of the strategic air campaign were less successful as it did not bring about the fall of the regime and the national communications system did not collapse.<sup>50</sup> For Pape, tactical air power used against Iraqi forces in Kuwait was the major cause for Saddam's eventual withdrawal.<sup>51</sup>

For others, focusing on the air element fails to acknowledge the contribution of coalition land forces which, with the assistance of tactical air power, demonstrated what 'Air-Land Battle' doctrine could achieve.<sup>52</sup> For Stockings and Fernandes, strategic air power was not 'the sole determinant of success'.<sup>53</sup> While not underplaying the important role of air power in setting the conditions, the evidence suggests the use of strategic air power was not solely responsible for coercing Saddam into removing his forces from Kuwait, thereby achieving victory by itself.<sup>54</sup> The 1991 Gulf War was as much about the capacity of tactical air power to support land forces as it was about the strategic air campaign.

The 1999 NATO air campaign in Kosovo has been portrayed as the first campaign in which air power was solely responsible for achieving 'victory'—in this case coercing Milosevic to comply with the demands of the international community. It has been portrayed as the fulfilment of Douhet and other air power theorists' expectations.<sup>55</sup> For Stigler, the air campaign demonstrated that coercive air power could be used alone to achieve a political goal and he discounts that the threat of a NATO ground invasion played any part in Milosevic's decision to back down.<sup>56</sup> Hénault agrees, noting the campaign demonstrates that 'strategic aerial warfare is a potentially decisive power' but notes that how it was applied in Kosovo did not follow Warden's theory of high-intensity strategic air warfare, suggesting his model may not be applicable in all cases.<sup>57</sup>

However, the role air power played in Kosovo remains disputed and contentious. The use of air power was graduated and constrained by political limitations. Intended to stop Serbian attacks on Kosovars, the air campaign has been accused of accelerating ethnic cleansing, with some 10,000 Kosovars killed by Serbian forces after the campaign commenced.<sup>58</sup> Critics cite other factors, including the threat of a ground invasion and the withdrawal of Russian diplomatic support, for Milosevic's ultimate compliance.<sup>59</sup> It is still unclear what ultimately forced Milosevic to back down, as demonstrated by the continuing debate about the role air power played.<sup>60</sup> For this reason, it cannot be definitely stated that Kosovo represents a case that demonstrates that strategic air power was solely responsible for the result achieved, particularly as the air campaign also involved tactical air elements.

## **Flawed assumptions?**

Another reason why strategic air power has failed to meet the expectations of its theorists is that strategic bombing theories have been founded on assumptions that have resulted in theorists overestimating the capabilities of strategic bombing or have been shown to be unsound. Four common assumptions that have underpinned strategic bombing theories at various times are discussed below.

Firstly, an assumption reflected in both public discourse and strategic bombing theories prior to World War 2 was that 'the bomber would always get through'.<sup>61</sup> For early air power theorists, it reflected their belief in the offensive supremacy of the bomber, a disregard for the effectiveness of air defences, and an understandable hope that strategic bombing would

avoid the attrition of trench warfare. There was limited comprehension of the vulnerability of unescorted bombers to air defences prior to World War 2.<sup>62</sup> For Biddle, a failure to re-evaluate this premise during the 1930s, with the development of radar and improved fighter speeds, was to set up one of many clashes 'between expectations and reality in air warfare' during World War 2.<sup>63</sup>

However, this is as much the fault of the practitioners of strategic bombing as the theorists—and by 1937, both Douhet and Mitchell had died.<sup>64</sup> The losses experienced by the RAF and US Army Air Force at the hands of the German air defences during the bomber offensive demonstrated how flawed this assumption was. Although the introduction of long-range fighter aircraft would ultimately achieve allied air superiority over Germany in 1944 and defeat of the Luftwaffe, final allied losses during the offensive included over 16,500 bombers damaged or destroyed and over 130,000 casualties.<sup>65</sup>

Achieving air superiority—highlighted by early power theorists but not necessarily pursued by early air power practitioners—remains an important enabler for strategic air power operations. For Warden, achieving air superiority is crucial to the success of an air campaign.<sup>66</sup> And the targeting of enemy air defences to achieve air superiority has become a regular feature of the initial stages of strategic air campaigns since the 1991 Gulf War.<sup>67</sup>

Secondly, in the post-World War 1 environment, strategic bombing theorists made the assumption that all future wars would be 'total' wars against advanced industrial nations. Battle would no longer be confined to the battlefield, with civilian populations now viewed as a valid target.<sup>68</sup> While this assumption held true for World War 2, subsequent conflicts involving the application of strategic air power, including Korea, Vietnam and Iraq, have been limited wars with narrow political objectives. These narrow political objectives have resulted in restrictions on how strategic air power is applied and are likely to remain a feature of future conflicts, as politicians demonstrate sensitivity to collateral damage—such as when strategic air strikes against Baghdad in the 1991 Gulf War were curtailed for 10 days following a major collateral damage incident.<sup>69</sup>

Another feature of limited wars in countries such as Korea, Vietnam and Afghanistan has been the absence of a modern industrialised economy, reducing the number of targets that could be struck and decreasing the effectiveness of strategic air power campaigns.<sup>70</sup> A failure of air power practitioners to understand the political constraints and the nature of the adversary has contributed to the use of strategic air power falling short of the expectations of air power theorists in limited wars such as Korea and Vietnam.<sup>71</sup>

Thirdly, early air power theorists made the assumption that civilian morale was susceptible to strategic bombing, which would lead to a collapse in the public will to continue to fight.<sup>72</sup> This assumption was based on limited evidence available from World War 1.<sup>73</sup> The direct and indirect targeting of civilian morale through strategic bombing was a key concept evident in early UK and US strategic bombing theories, culminating in the bomber offensive against Germany and the US strategic bombing campaign against Japan.<sup>74</sup>

Although adversely affecting morale in both Germany and Japan, such offensives did not result in the populations rising up against their respective governments.<sup>75</sup> For Biddle, 'civilian will proved itself susceptible to "cracking" neither in democracies nor totalitarian states'.<sup>76</sup> Further, Pape observed that in 'more than twenty-five major strategic air campaigns ..., air power has never caused the masses to take to the streets to demand anything'.<sup>77</sup> On this

basis, the effectiveness of attempting to target civilian morale with strategic bombing is questionable—highlighting one reason why the past use of strategic air power has not met air power theorists' expectations.

Finally, the early theorists were overly optimistic about what technology could achieve.<sup>78</sup> All underestimated the difficulties associated with bombing accuracy and overestimated the damage that bombing would create.<sup>79</sup> During the bomber offensive of World War 2, the US Army Air Force was to discover that their precise attacks were not 'precise', while the RAF was forced to adapt its bombing strategy in response to early poor results.<sup>80</sup> While precision-guided munitions have improved the capabilities of air forces to strike targets precisely, the experiences of early air power theorists should make modern theorists and practitioners wary of making overly optimistic claims about the capabilities of strategic air power, both in a joint setting and to government, lest they fall into the trap of their predecessors by over-promising and under-delivering.<sup>81</sup>

## Conclusion

A key feature of strategic air power theories has been that strategic bombing would provide the means to bypass an adversary's fielded forces and directly attack their industrial and population centres in order to collapse an adversary's will to fight—meaning strategic bombing could independently win wars. This article has tested this tenet by examining the World War 2 combined bombing offensive, the 1991 Gulf War and the 1999 Kosovo conflict to determine whether strategic air power had achieved this aim. The evidence suggests that while air power made a significant contribution to these conflicts, there is no definitive evidence to demonstrate that strategic air power was solely responsible for the outcomes.

In the absence of such evidence—and while the assumptions that more broadly underpin the theories of strategic air power remain inconsistent with its practical application—it is difficult to conclude that the use of strategic air power has ever realised the expectations of its theorists. If this is the case, a fundamental question worthy of deeper exploration is raised—how will current practitioners of strategic air power ensure its use realises the expectations, not only of theorists, but also of their commanders and political masters into the future?

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## NOTES

1. This article is an edited version of a paper, titled 'The use of strategic air power has never realised the expectations of air power theorists', submitted by the author while attending the Australian Command and Staff College at the Australian Defence College in 2012.
2. Air Power Development Centre, 'The Concept of Strategic Bombing: Has it come of age?', *Pathfinder*, Issue 179, 2012.
3. M.J. Conversino, 'The Changed Nature of Strategic Air Attack', *Parameters*, Vol. 27, No. 4, 1998, p. 29.

4. Commonwealth of Australia, *AAP 1000-D The Air Power Manual*, Air Power Development Centre: Canberra, 2007; Ministry of Defence, 'British Air and Space Doctrine AP 3000', 4th Edition: see <[www.raf.mod.uk/rafcms/mediafiles/9E435312\\_5056\\_A318\\_A88F14CF6F4FC6CE.pdf](http://www.raf.mod.uk/rafcms/mediafiles/9E435312_5056_A318_A88F14CF6F4FC6CE.pdf)> accessed 22 June 2012: and US Air Force, 'Air Force Basic Doctrine - Air Force Doctrine Document 1': see <[www.dtic.mil/doctrine/jel/service\\_pubs/afdd1.pdf](http://www.dtic.mil/doctrine/jel/service_pubs/afdd1.pdf)> accessed 21 June 2012.
5. D. Jordan, 'Air and Space Warfare', in D. Jordan, J.D. Kiras, D.J. Lonsdale, I. Speller, C. Tuck and C.D. Walton (eds.), *Understanding Modern Warfare*, Cambridge University Press: Cambridge, 2008, p. 192.
6. Jordan, 'Air and Space Warfare', p. 192.
7. See Conversino, 'The changed nature of strategic attack', p. 28; also A. Stephens, 'Alive and Well: The Air School of Strategic Thought', Paper 49, Air Power Studies Centre: Canberra, 1996, pp. 13-4.
8. Ministry of Defence, 'British Air and Space Doctrine AP 3000'.
9. J. Buckley, *Air Power in the Age of Total War*, UCL Press: London, 1999, p. 2.
10. R.A. Pape, *Bombing to Win*, Cornell University Press: Ithaca NY, 1996, p. 46.
11. Conversino, 'The Changed Nature of Strategic Air Attack', p. 33.
12. Conversino, 'The Changed Nature of Strategic Air Attack', pp. 33-4.
13. Douhet, Trenchard and Mitchell's theories on air power were much wider in scope than outlined in the essay, which focuses on the key elements of their strategic bombing theories.
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# The US Submarine Campaign in the Pacific, 1941-45<sup>1</sup>

Brigadier Mick Ryan, AM, Australian Army

## Introduction

Submarine operations were a vital element of the Allies war against Japan in the Pacific. The contribution of the US Navy's submarine force was the result of a sound pre-war foundation in the design of submarines, effective operational and tactical adaptation during the war, an efficient wartime construction program, and the Japanese failure to conduct effective anti-submarine operations. In an environment in which Japan was highly vulnerable to commerce warfare, and exploiting America's material strength in naval warfare<sup>2</sup>, the result was an exemplary campaign in *guerre de course*.<sup>3</sup> This article assesses the campaign and concludes with a judgment as to how decisive it was in the defeat of Japan.

The interwar Japanese and US navies failed to anticipate the most effective role of submarines in any future war.<sup>4</sup> What differentiated them is that once the war in the Pacific started, the Japanese failed to deal with the submarine menace until it was too late, whereas the US Navy learned and adapted its employment of submarines accordingly. This adaptation manifested in several key innovations that together ensured the US submarine fleet made a significant contribution to Allied operations in the Pacific. While originally envisioned by the US Navy as 'fleet scouts', the recognition of Japan's vulnerability to blockade resulted in a process of adaptation where these 'average' scouting platforms became excellent predators for attacking Japanese merchant shipping.

## The launch of the campaign – December 1941

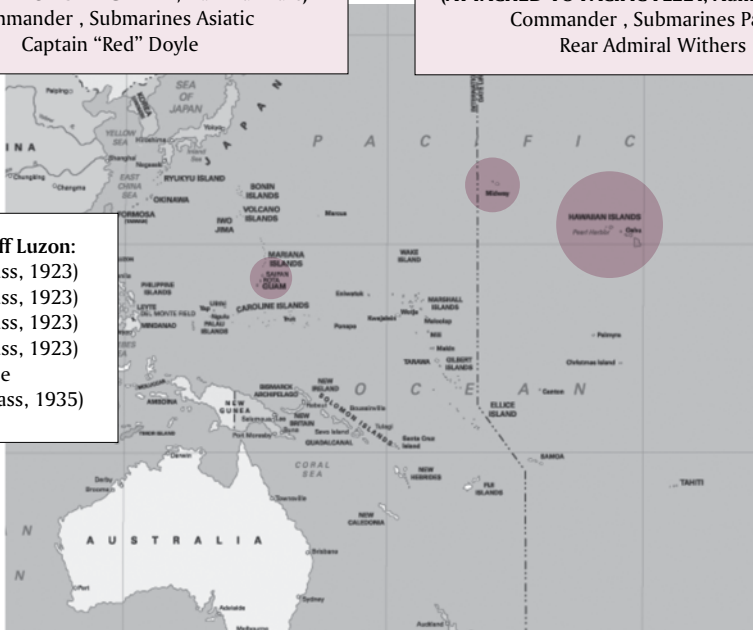
On the day of the Japanese attack on Pearl Harbor, the US Navy's fleet of submarines in the Pacific was split between two commands. The 'Submarines Pacific' force, based at Pearl Harbor, comprised 13 submarines, either on patrol or in Pearl Harbor. A second force, 'Submarines Asiatic', was based in Manila and comprised 28 submarines. The disposition of the fleet on 7 December 1941 is shown at Figure 1.



**SUBMARINES, ASIATIC**  
 (ATTACHED TO ASIATIC FLEET, Admiral Hart)  
 Commander , Submarines Asiatic  
 Captain "Red" Doyle

**SUBMARINES, PACIFIC**  
 (ATTACHED TO PACIFIC FLEET, Admiral Kimmel)  
 Commander , Submarines Pacific  
 Rear Admiral Withers

**On patrol off Luzon:**  
 S-36 (S-1 class, 1923)  
 S-37 (S-1 class, 1923)  
 S-38 (S-1 class, 1923)  
 S-39 (S-1 class, 1923)  
 USS Porpoise  
 (Porpoise class, 1935)



**Manila Bay:**  
 S-40 (S-1 class, 1923)  
 S-41 (S-1 class, 1924)  
 USS *Seal* (Salmon class, 1938)  
 USS *Saury* (Sargo class, 1939)  
 USS *Sargo* (Sargo class, 1939)  
 USS *Permit* (Perch class, 1937)  
 USS *Tarpon* (Shark class, 1936)  
 USS *Sailfish* (Sargo class, 1940)  
 USS *Snapper* (Salmon class, 1937)  
 USS *Pickrel* (Perch class, 1937)  
 USS *Sturgeon* (Salmon class, 1938)  
 USS *Spearfish* (Sargo class, 1939)  
 USS *Swordfish* (Sargo class, 1939)  
 USS *Pike* (Porpoise class, 1935)  
 USS *Perch* (Perch class, 1936)  
 USS *Shark* (Shark class, 1936)  
 USS *Salmon* (Salmon class, 1938)  
 USS *Sculpin* (Sargo class, 1939)  
 USS *Sealion* (Sargo class, 1939)  
 USS *Seawolf* (Sargo class, 1939)  
 USS *Stingray* (Salmon class, 1938)  
 USS *Skipjack* (Salmon class, 1938)  
 USS *Searaven* (Sargo class, 1939)  
 USS *Seadragon* (Sargo class, 1939)

**On patrol off Midway Island:**  
 USS *Argonaut* (V-4 class, 1928)  
 USS *Trout* (Tambor class, 1940)

**On patrol / in transit near Hawaii:**  
 USS *Pompano* (Perch class, 1937)  
 USS *Pollack* (Perch class, 1937)  
 USS *Plunger* (Perch class, 1936)  
 USS *Gudgeon* (Tambor class, 1940)  
 USS *Thresher* (Tambor class, 1940)

**In Pearl Harbor:**  
 USS *Narwhal* (V-5 class, 1930)  
 USS *Dolphin* (Dolphin class, 1931)  
 USS *Cachalot* (Cachalot class, 1933)  
 USS *Tautog* (Tambor class, 1940)

**On patrol off Guam:**  
 USS *Tambor* (Tambor class, 1940)  
 USS *Triton* (Tambor class, 1940)

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 Map - <http://historicalresources.files.wordpress.com/2008/09/the-far-east-and-the-pacific-1941.gif>

**Figure 1. US Navy submarine dispositions, 7 December 1941**

The submarines were a mix of classes, including the R and S classes, and the newer Tambor (1938) class boats. After overcoming technical issues in the interwar period, mainly relating to engine power and reliability, periscope vibration and inferior ventilation, the US Navy had a fleet-in-being and under construction (see Figure 2) that was well suited to the type of war it would fight in the Pacific.<sup>5</sup> But it had prepared for a war where submarines would play a supporting role as scouts for US Navy surface combatants.

SUBMARINE CLASS	Sargo / Salmon	Tambor	Gato	Balao	Tench
First of class commissioned	1938	1940	1941	1943	1944
Displacement -surfaced	1450 tons	1475 tons	1525 tons	1526 tons	1570 tons
Speed -surfaced/ submerged	21 / 9 knots	20 / 9 knots	21 / 9 knots	20 / 9 knots	20 / 9 knots
Range	11,000 miles	11,000 miles	11,000 miles	11,000 miles	11,000 miles
Torpedoes	4x21" bow tubes. 4x21" stern tubes. 24 torpedoes.	6x21" bow tubes. 4x21" stern tubes. 24 torpedoes.	6x21" bow tubes. 4x21" stern tubes. 24 torpedoes. MK III Torpedo Data Computer.	6x21" bow tubes. 4x21" stern tubes. 24 torpedoes. MK III Torpedo Data Computer.	6x21" bow tubes. 4x21" stern tubes. 28 torpedoes. MK III Torpedo Data Computer.
Sensors	SD air radar. Sonar.	SD air radar. Sonar.	SD air radar. SJ surface radar. JP hydrophone. QB Sonar.	SD air radar. SJ surface radar. JP hydrophone. QB Sonar. ST periscope radar	SD / SK air radar. SJ surface radar. JP hydrophone. QB Sonar. ST periscope radar
Diving Depth	250 feet	250 feet	300 feet	400 feet	400 feet
Built	16	12	77	124	30
Lost during war	4	7	19	8	0

Figure 2. Principal US submarine classes in the Pacific War<sup>6</sup>

Within hours of the last Japanese bombs falling on Pearl Harbor, US submarines were directed to execute unrestricted warfare against Japan.<sup>7</sup> The first US Navy submarine patrol of the Pacific War, by USS *Gudgeon*, departed four days later for a voyage to Japanese home waters. In all, 11 patrols were made by Pacific-based submarines in the period immediately following Pearl Harbor.<sup>8</sup> However, all the skippers involved were criticised by the US commander of Pacific submarines for a variety of shortcomings, including over-use of torpedoes, lack of surface cruising, using sonar approaches instead of periscope approaches and for not using night surface attacks.<sup>9</sup>

Things did not significantly improve over the course of 1942. During that year, US submarines conducted 350 patrols. While they comprised one of the few offensive weapons available to the Navy in the Pacific, there was no coherent, unified plan for their use. They were used in coastal defence, intercepting Japanese capital ships, commando raids, mine laying, reconnaissance, delivering supplies, evacuating personnel and moving staff around the Asiatic theatre. With this diffusion of effort, their interdiction of Japanese shipping had minimal impact.

In 1942, Pacific submarines claimed 274 ships sunk (which was subsequently reduced to 180 in post-war analysis). But Japanese ship-building was able to make up for almost all the losses.<sup>10</sup> And their attacks against Japanese capital ships proved even less lucrative, as not a single

ship was sunk, although four were slightly damaged.<sup>11</sup> Moreover, even when employed as scouts, US Navy submarines did not perform particularly well, highlighted at the Battle of Midway in 1942, where submarines had problems identifying and reporting the movement of enemy vessels.

While submarines had severe limitations in operating against enemy surface combatants, the number of merchant ships sunk during 1942 provided a glimmer of their potential as commerce raiders.<sup>12</sup> But the submarine force was also hobbled by other challenges.

**Unreliable torpedoes.** When the war started, the main submarine weapon was the Mark-14 torpedo. It could travel at 46 knots and carried a 600-pound warhead.<sup>13</sup> Theoretically, it should have been an excellent weapon. In practice, problems with their detonators resulted in high levels of unreliability and a loss of confidence, with every submarine captain in the early months of the war expressing concerns about the performance of the Mark-14 torpedo.<sup>14</sup>

Initially, there was also a depth-keeping problem. Torpedoes were running much deeper than set and failing to explode at least half of the time. The problem was compounded by the US Navy's Bureau of Ordnance determination that there was nothing wrong with the torpedo and that commanders were just obviously missing their targets. Following this determination, the new commander of US submarines, Admiral Lockwood, conducted his own tests in June 1942. These confirmed that torpedoes were indeed running 10-15 feet deeper than set. Eight months after Pearl Harbor, the Bureau conceded there was a problem and modified all torpedoes.<sup>15</sup>

Submarine commanders then reported that even with the corrected depth settings, defective magnetic exploders were causing torpedoes either to detonate prematurely or pass under targets and not explode at all. The final straw was an attack by USS *Trigger* on the Japanese aircraft carrier *Hiyo* in June 1943, where four torpedoes hit the ship but only one exploded, causing minor damage. All magnetic exploders were ordered deactivated, leaving the Mark 14 a contact-only weapon.<sup>16</sup>

But a third problem arose. Now, a perfect shot would send a torpedo squarely into the side of a target, only to have it fail to explode. In the wake of a patrol by the USS *Tinosa*, where 11 of 15 torpedoes failed to detonate, more tests were ordered. Finally, in August 1943, tests conducted in Hawaii conclusively proved that the exploder was improperly designed. Modifications were made by technicians at Pearl Harbor, and the Bureau of Ordnance ordered a redesign of the exploder. After 21 months of war, the defects of the submarines' main weapon had been isolated and fixed.<sup>17</sup> The Mark-14 torpedo became reliable and sinkings increased.

**Combat leadership.** Although the US Navy possessed excellent fleet submarines at the start of the Pacific War, it had failed to develop sufficient skippers with the initiative and aggression to command them in war.<sup>18</sup> While a good submarine skipper obviously had to be proficient in handling his boat, and be a sound tactician, their peacetime experience tended to focus on technical expertise.<sup>19</sup> Moreover, because of a pre-occupation with scouting for the main battle-fleet during the interwar period, tactics emphasised extreme caution in attacks.<sup>20</sup> Indeed, submarine captains faced severe criticism if 'caught' during training manoeuvres, which resulted in most being unwilling to take risks.<sup>21</sup>

The US Navy also over-estimated the effectiveness of adversary anti-submarine operations during exercises, which resulted in low risk, deep approaches to targets, with torpedo firings

based on sound bearings. Similarly, using sonar, rather than periscopes, to locate targets was recommended to avoid detection by patrolling aircraft. While the Navy was aware of German successes with night-time surface attacks, this was judged too hazardous during peacetime and rarely practised.<sup>22</sup>

On the outbreak of hostilities, some skippers were quick to jettison pre-war tactics. But pre-war training, and the conservatism it bred, was too hard to change for many. During 1942, 40 of 135 submarine captains were relieved of command because of poor health, battle fatigue or non-productivity.<sup>23</sup> The challenge of improving combat leadership was addressed in part by instituting rigorous pre-patrol training, which emphasised new tactics in approaching enemy vessels, fast diving and the most effective torpedo spreads. However, the policy of skipper reliefs continued throughout the war. And even in 1944, the most successful year for the submarine force, 35 skippers were relieved for 'non-productivity'.<sup>24</sup>

### **Doctrinal innovation: the critical operational adaptation**

While 1942 was a year of setbacks and learning, 1943 was the year that the Pacific submarine force started to make a meaningful contribution against the Japanese. Torpedoes were fixed and command 'risk aversion' was addressed. Additional improvements in effectiveness were provided by the deployment of submarine-mounted radars<sup>25</sup> and the widespread exploitation of signals intelligence about Japanese ship movements.<sup>26</sup> But the greatest single contributor to an enhanced submarine campaign was doctrinal innovation.

Before the war, neither the US nor Japanese navies expected to imitate the German conduct of commerce warfare.<sup>27</sup> The US strategy for crossing the Pacific and defeating Japan was encapsulated during the interwar years by 'War Plan Orange'.<sup>28</sup> This envisaged a climactic American-Japanese fleet encounter, somewhere between the Philippines and the coast of Japan, to determine command of the Pacific. But it did not envisage a commerce-raiding role for US Navy submarines. There were several reasons for this.

It was felt that indiscriminate sinkings might alienate US allies.<sup>29</sup> US strategists also regarded submarines as a 'pariah' among naval weapons and viewed unrestricted submarine warfare as abhorrent to civilised norms.<sup>30</sup> Legally, the US was bound by the conditions of the 1930 London Naval Conference<sup>31</sup> and a follow-on conference in 1937,<sup>32</sup> which outlawed unrestricted sinkings. Finally, the US Navy assumed that Japan would arm and escort its merchant fleet in war.<sup>33</sup> Even in October 1941, despite the evidence of German submarine operations being effective against merchant shipping in the Atlantic, the US Navy decreed that unrestricted torpedoing would be forbidden, unless justified by events after the outbreak of war. Only after Pearl Harbor were US Navy submarines authorised to execute unrestricted warfare against Japan.<sup>34</sup>

Indeed, after Pearl Harbor, submarines were the only capability the US had to effectively attack the Japanese. And Japan's vulnerability to commerce raiding was also becoming better understood. Over three-quarters of Japan's requirements for basic raw materials, and a significant percentage of other materials, oil and foodstuffs, came from overseas. This weakness made the Japanese merchant fleet prone to interdiction. This, and the availability of submarines as the Navy's key offensive weapon, drove a significant adaptation in the US Navy's employment of submarines.<sup>35</sup> It resulted in a shift from fleet scout and ambusher to commerce

raider, and was the key innovation that allowed the submarine force to play such a significant role in the defeat of Japan.

Doctrinal adaptation was also aided by new senior naval leaders in the Pacific, who were more willing to challenge existing ideas on the employment of submarines and their synchronisation within a broader strategic plan. Until mid 1943, submarine commanders in Pearl Harbor and Australia had essentially run their own independent campaigns, with little thought to what types of ships should be prioritised for attack.

This changed in early 1943, when Vice Admiral Lockwood was appointed as the Commander of Submarines Pacific. Lockwood commenced publishing the *Submarine Warfare Bulletin*, which shared lessons on tactical doctrine. He also employed 'Submarine Operations Research Groups', located in Pearl Harbor (for short-term issues) and Washington DC (for longer-term issues), to analyse tactical and technical submarine issues, with a view to improving the effectiveness of his force.<sup>36</sup> Lockwood also issued the first unified submarine concept, in his Operations Plan of 24 June 1943.

**Tanker wars.** One of the features of Lockwood's 1943 plan was placing a higher priority on attacking Japanese tankers.<sup>37</sup> The Japanese were confronted with greatly increased demand for petroleum after the outbreak of war, which could only be met by the transportation of supplies from oilfields in Southeast Asia. Submarines based in Australia were critical to this new approach, as the maritime areas around the key oilfields in Sumatra and Borneo fell within their area of responsibility. The location of tankers carrying oil from these fields to the Japanese fleet at Truk also became a high priority for allied code breakers. In 1943, 151,000 tons of tankers (12 per cent of the total) were sunk. However, from mid-1944, tankers were being sunk at a rate that ensured that by March 1945 no oil was being imported to Japan (see Figure 3).

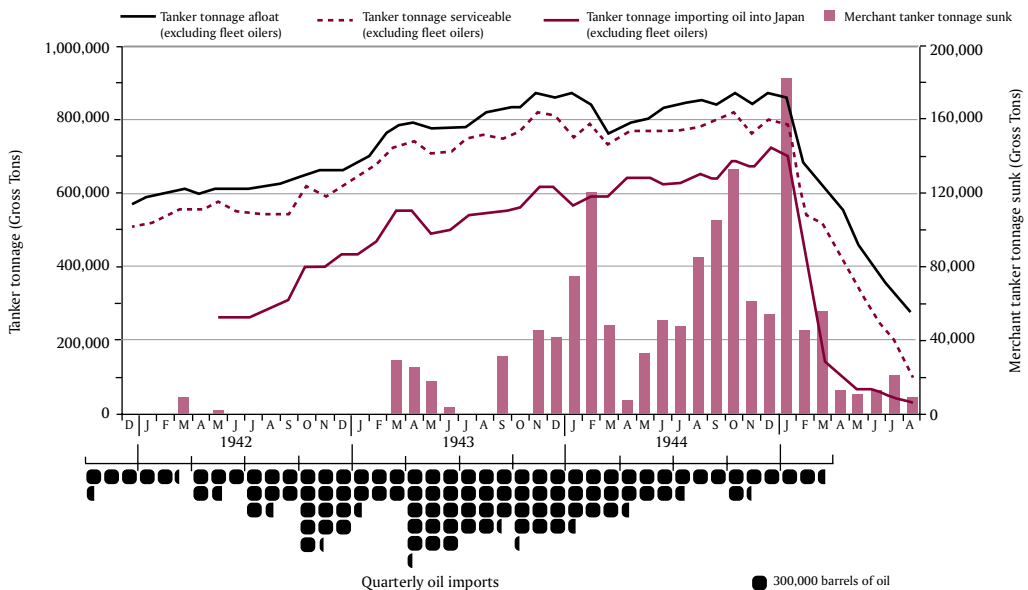


Figure 3. Allied sinking of Japanese oil tankers 1942-45<sup>38</sup>

**Wolf packs.** Early in hostilities, the US Chief of Naval Operations had directed that US submarines work in 'wolf packs'.<sup>39</sup> But it was not until September 1943 that the first experiments commenced. These wolf packs were organised differently from the Germans, who controlled them from a central headquarters. Admiral Lockwood knew from operations in the Atlantic that communications between boats and the headquarters were often compromised, drawing attacks from anti-submarine forces. Additionally, as submarines on their way to a convoy only communicated with their headquarters, and not each other, there were occasional collisions between boats.<sup>40</sup> US wolf packs would instead depart port together and operate under the control of the senior officer using high frequency radio, rather than as a swarm summoned from all directions when a convoy was located.

Early wolf pack operations, while at times compromised by poor inter-submarine communications, confirmed their usefulness in finding ships, but not always for attacking them.<sup>41</sup> When practised successfully, the US approach also provided a good measure of independence for skippers in the execution of actual attacks against convoys.<sup>42</sup> By the end of 1944, US submarine wolf packs had almost complete superiority over the Japanese convoy system. When they made contact with a Japanese convoy, they were able to sink two-thirds, and sometimes three-quarters, of each convoy. From May-December 1944, approximately 50 per cent of sinkings were by US boats operating as a wolf pack.<sup>43</sup>

**Impact of changed doctrine.** The reorientation of the submarine force to attacking Japan's merchant navy (especially tankers) and the introduction of wolf pack tactics had a major impact on the Pacific War. This adaptation in doctrine ensured that by late 1943, the submarine force was poised to subject Japanese merchant shipping to an onslaught from which it could not recover. While the number of patrols in 1943 remained similar to that in 1942 (about 350), the amount of shipping claimed and credited rose to 443 ships of 2.9 million tons.<sup>44</sup> For the first time, the import of commodities to Japan dropped<sup>45</sup> and Japanese shipyards were no longer able to keep pace with losses. The impact was a net loss in shipping (less tankers) of 1.1 million tons.<sup>46</sup>

### **Japanese anti-submarine operations: a failure to anticipate *and* learn**

Between the wars, the Japanese Navy planned strategy based on decisive battle, and tactics were developed accordingly. As a result, they ignored commerce protection in building programs and fleet training, and there were few escort ships in the Japanese Navy in 1941.<sup>47</sup> However, by late 1943, it was obvious to the Japanese Combined Fleet that something had to be done about the losses of merchant vessels and tankers from US submarines.<sup>48</sup> Japan responded in November 1943 with the formation of the 'Japanese Grand Escort Fleet'.<sup>49</sup> Unfortunately for the Japanese, this coincided with the US submarine fleet reaching the height of its effectiveness.

The Escort Fleet was initially allocated 50 ships, the best of which were 15 destroyers with an average age of 25 years. The Japanese eventually employed a fleet of over 150 escorts, including four escort carriers. In December 1943, the Fleet was also allocated the 901<sup>st</sup> Naval Air Flotilla, to be employed solely on escort duties. However, the aviators were untrained, which resulted in many operational losses.<sup>50</sup> The operations of the Fleet were further compromised by the Japanese naval strategy that gave priority to engaging the US fleet in battle, which compromised the allocation of resources to the 'Grand Escort Command', for the protection of merchant vessel convoys.<sup>51</sup>

Nevertheless, large convoys started to be organised, under the command of experienced officers. The Japanese were also able to use direction-finding techniques to locate submarines, although they lacked a communications system that could rapidly disseminate the information.<sup>52</sup> Even as the Escort Command was expanded, the shortage of such basic items as sonar and depth charges remained serious.<sup>53</sup> Late in the war, magnetic anomaly detectors were introduced but these were provided in too small a quantity and too late in the war to make an impact.

As the US Navy’s post-war *Strategic Bombing Survey* noted, Japan’s lack of technical sophistication in anti-submarine operations, its lack of focus on convoy operations for the first two years of the war, and its lack of a centralised system for information about submarines and other hazards, made merchant vessels easy prey for US submarines.<sup>54</sup> More importantly, Japan’s lack of a coordinated anti-submarine capability for two years provided the US submarine force with two years to learn, adapt and become highly proficient at commerce raiding, in an environment where they faced a threat much less capable than pre-war estimates.

**The state of the submarine campaign – 1944**

In 1944, the US submarine campaign broke the back of the Japanese merchant fleet. By September that year, there was a near complete blockade of Japan. The Japanese had lost so many merchant vessels that sustaining the war economy was becoming impossible.<sup>55</sup> Wolf pack tactics, night attacks on the surface and aggressive execution of attacks were all elements of submarine operations that had emerged based on wartime experience. With more of the new Gato and Balao class submarines, improved technology such as radar, smaller patrol areas as the Japanese retreated, and targeting Japanese shipping through signals intelligence, the submarine force was now operating at peak performance.

Post-war analysis confirmed that 603 Japanese ships were sunk by submarines in 1944, exceeding the combined total for 1941 to 1943 (see Figure 4).<sup>56</sup> Japanese ships were hampered by fuel shortages and forced to sail slowly, or follow direct routes instead of evasive ones. Japanese military pilots could not be trained because of a lack of fuel.<sup>57</sup> The year was also the most successful one for US submarine attacks on Japanese surface combatants, sinking one battleship<sup>58</sup>, seven aircraft carriers<sup>59</sup>, nine cruisers and 30 destroyers.<sup>60</sup>

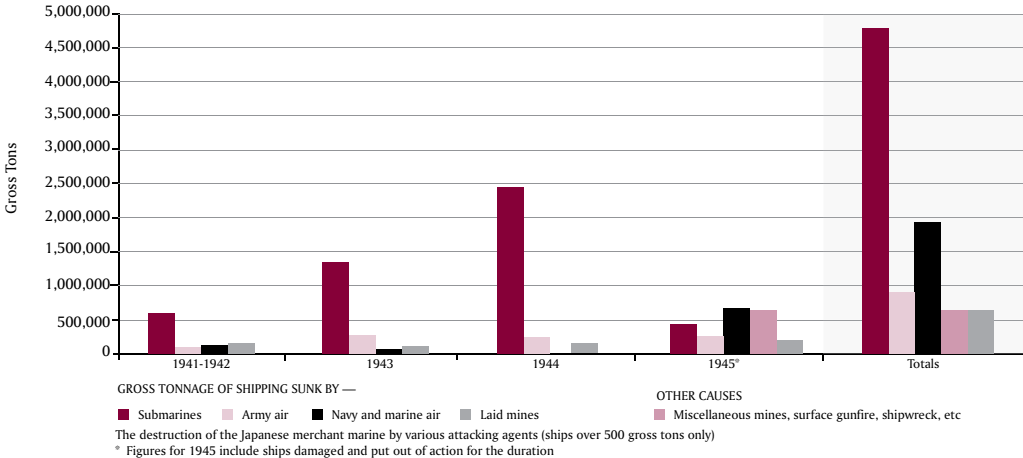


Figure 4. Japanese merchant marine losses by cause and year<sup>61</sup>

As Figure 4 shows, the submarine war against Japanese merchant shipping was largely over by the end of 1944. Enemy merchant ships that were still putting to sea were forced to operate in the confined waters of the Sea of Japan or the Yellow Sea. They would run close to shore and stay in harbours at night, which made it almost impossible for submarines to attack them.<sup>62</sup> From this point onwards, the US Army Air Force and US Navy aircraft would play a more significant role in the attrition of Japan's merchant fleet.

### The contribution of the campaign to the defeat of Japan

During the war, the US Navy deployed a total of 288 individual submarines in the Pacific, although the highest strength at any one time did not exceed 156 boats. At the end of the war, submarines constituted only 2 per cent of US forces in the Pacific.<sup>63</sup> In contrast to German submarine operations in the Atlantic, US Navy submarines demonstrated a steady increase in the number and tonnage of combatant and merchant vessel sinkings through 1943 and 1944.<sup>64</sup>

In terms of losses, a comparison of both sides is illustrative. During their 1941-45 campaign, the US submarine force in the Pacific suffered the loss of 49 submarines and 3,506 submariners. This is compared to the World War 2 German submarine force in the Atlantic that lost 781 boats and 28,000 sailors.<sup>65</sup> Over the same period, the US submarine force sank 201 Japanese naval vessels and 1113 merchant vessels (including tankers).<sup>66</sup> As shown in Figure 5, this represented the majority of Japanese shipping sunk during the war in the Pacific.

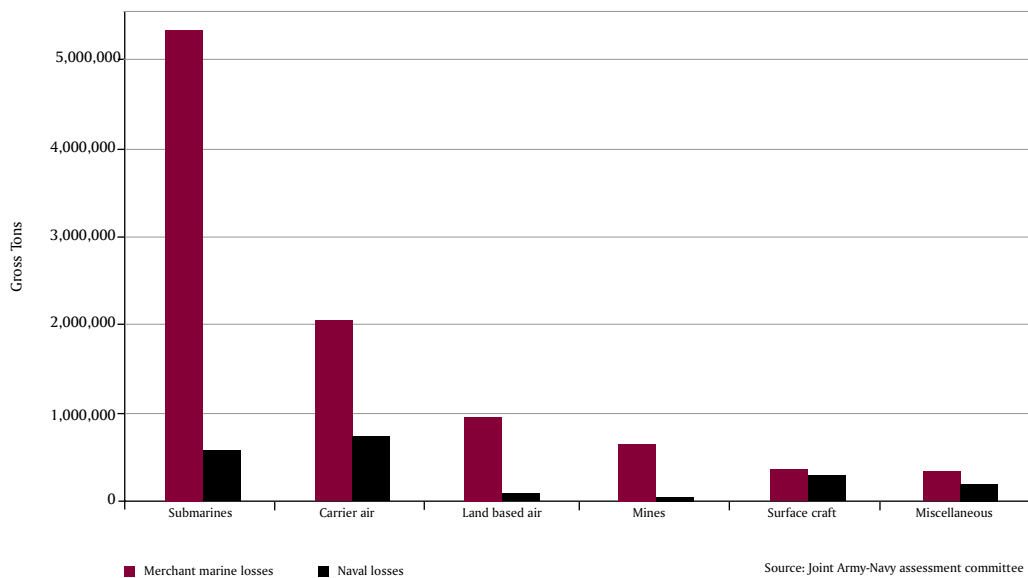


Figure 5. Japanese naval and merchant vessels sunk by US forces, 1941-45<sup>67</sup>

In qualitative terms, the impact of the submarine campaign was devastating for the Japanese war effort. The economic repercussions of the shipping shortages caused by the sinkings became drastic, threatening the very life of the nation. Virtually all Japanese industries suffered in some degree from the loss of vital imports. Imports of 16 major commodities fell from 20 million metric tons in 1941 to 10 million in 1944, and just 2.7 million in the first



six months of 1945. The dependence of the iron and steel industry on imported coal and ore made it extremely vulnerable. All efforts to protect it by stockpiling, and greater use of domestic coal and ores, failed to prevent a decline in output after 1943. Ingot steel output fell from its peak of 700,000 tons in December 1943 to just 300,000 tons in June 1945, when stocks were largely exhausted.<sup>68</sup>

The impact of tanker sinkings was even more pronounced. Japan had a stockpile of over 40 million barrels of oil in 1941; this had dwindled to 3.7 million barrels by the end of March 1945 and just 800,000 by July. Strenuous efforts to improve the situation produced peaks of short duration but, after July 1944, the tanker tonnage devoted to import declined significantly and by April 1945 it ceased entirely.<sup>69</sup> By July 1945, with stockpiles of all major materials exhausted and no more coming in, Japan's economy was completely shattered.<sup>70</sup> Naval interdiction by US submarines had succeeded in destroying the Japanese economy.

Had the war continued beyond August 1945, the Japanese nation would have faced gradual starvation and increasing impotence. In their 1943 plan for the defeat of Japan, the US Combined Chiefs of Staff had set an overall objective to establish a sea and air blockade of Japan;<sup>71</sup> the US Navy's submarine force played a decisive role in the achievement of that objective.

## Conclusion

The US Navy's submarine campaign against Japanese shipping was perhaps the most decisive single factor in the collapse of Japan's economy and the logistic support of Japanese military power. During the war in the Pacific, 288 US submarines conducted over 1,500 sorties and sank half of the merchant tonnage available to Japan during the war.<sup>72</sup>

The marked effectiveness of the submarine operations was due to a variety of favourable circumstances. The failure of the Japanese to anticipate submarine attacks and to guard against them presented an inviting field for such attacks. Belated efforts to organise a convoy system were poorly planned and executed, resulting in the very poor performance of Japan's 'Grand Escort Fleet'. Japanese technical anti-submarine equipment was poor and efforts to arm merchant vessels for protection against submarines were inadequate. Conversely, excellent US naval intelligence enabled submarines to find targets with increasing success and efficiency.

Early in the war, Japanese surface combatants were the priority target, in accordance with naval doctrine, with commercial shipping a lower priority. But in mid-1943, US submarines were specifically directed to seek out tankers for destruction. The post-war surveys of damage to the Japanese naval and merchant fleets provide ample data on the effect that the relatively small US Navy submarine force had on the Japanese war effort. As highlighted by the analysis in this article, it is clear that the US submarine campaign from 1941 until 1945 was decisive in the defeat of Japan.

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## NOTES

1. This article is an edited version of a paper prepared by the author while a student at the School of Advanced International Studies (SAIS), John Hopkins University, Washington DC. It is published in the *ADF Journal* with kind permission of SAIS.
2. Allan Millett and Murray Williamson (eds.), *Military Effectiveness, Volume 3: The Second World War*, New Edition, Cambridge University Press: Cambridge, 2010, p. 64.
3. Commerce raiding or *guerre de course* (war of the chase) is a form of naval warfare used to destroy or disrupt the logistics of an enemy on the open sea by attacking its merchant shipping, rather than engaging the combatants themselves or enforcing a blockade against them. See Norman Friedman, *Seapower as Strategy*, Naval Institute Press: Annapolis, 2001, pp. 92-3.
4. The inability to foresee and take appropriate measures to deal with an enemy's (or anticipated enemy's) move, or a likely response to a move, produces a failure of anticipation. See Eliot Cohen and John Gooch, *The Anatomy of Failure in War: military misfortunes*, Free Press: New York, 2006, p. 27.
5. Thomas Parrish, *The Submarine: a history*, Penguin: London, 2004, p. 179.
6. Source for all statistics is Jack Bauer and Stephen Roberts, *Register of Ships of the US Navy, 1775-1990 Major Combatants*, Greenwood Press: New York, 1991, pp. 268-81.
7. Millett, *Military Effectiveness*, p. 320.
8. These were the USS *Gudgeon*, *Pollack*, *Plunger*, *Pompano*, *Dolphin*, *Tautog* and *Thresher* from Pearl Harbor; USS *Argonaut* and *Trout* from Midway Island; and USS *Tambor* and *Triton* from Wake Island. See Clay Blair, *Silent Victory: the US submarine war against Japan*, Naval Institute Press: Annapolis, 1975, p. 901.
9. Blair, *Silent Victory*, pp. 120-1.
10. Japan began the war with 5.4 million tons of shipping (less tankers); in December 1942, the figure was 5.2 million tons. The tonnage of tankers had actually increased during the year from 575,000 tons to 686,000 tons: see Blair, *Silent Victory*, pp. 359-60. Tanker deliveries met schedules better than other types of merchant ships because of the higher priority assigned to tankers from December 1942 to January 1945. The priority was implemented by the assignment of tanker construction to what were considered the most reliable shipyards. When it became apparent in the spring of 1944 that production schedules generally would not be met, previously-scheduled cargo ship production was rescheduled for completion as tankers. It was not until it was considered no longer a worthy risk to send tankers to the south that efforts to meet the demand for new tankers ceased. That decision was made in January 1945. See US Government, *US Strategic Bombing Survey: Japanese merchant shipbuilding*, Military Supply Division: Washington DC, 1947, p. 1.
11. Blair, *Silent Victory*, p. 360.
12. Parrish, *The Submarine*, pp. 374-7.
13. Richard Overy, *Why the Allies Won*, Norton: New York, 1995, p. 225.
14. There was sufficient data to make such a judgment; the number of torpedoes fired in December 1941 alone exceeded the total number of torpedoes fired in the history of the US Navy. See James DeRose, *Unrestricted Warfare*, John Wiley: New York, 2000, p. 34.
15. Blair, *Silent Victory*, pp. 274-8.
16. Blair, *Silent Victory*, pp. 430-1.
17. For a full description of this patrol, see Blair, *Silent Victory*, pp. 434-9.
18. Commanders of the smaller coastal submarines, such as the S-class, were lieutenants with 10-12 years commissioned service. Fleet submarine commanders were more senior, generally Lieutenant Commanders with 14-17 years service. Most officer submariners were graduates of the US Naval Academy. Some younger Reserve officers had also entered the submarine force just before the war

- but these were a minority. See W. Holmes, *Undersea Victory: the influence of submarines on the war in the Pacific*, Double Day: New York, 1966, p. 34. Also Allan Millett and Williamson Murray (eds.), *Military Innovation in the Inter War Period*, Cambridge University Press: Cambridge, 1996, p. 259.
19. Holmes, *Undersea Victory*, p. 34.
  20. Ronald Spector, *Eagle Against the Sun*, Free Press: New York, 1985, p. 482.
  21. Millett and Murray, *Military Innovation in the Inter War Period*, p. 259.
  22. Spector, *Eagle Against the Sun*, pp. 482-3. See also Montgomery Meigs, *Slide Rules and Submarines*, National Defense University Press: Washington DC, 1990, pp. 154-6. Also Holmes, *Undersea Victory*, p. 86.
  23. Blair, *Silent Victory*, p. 361.
  24. Blair, *Silent Victory*, pp. 446-7 and 818.
  25. A key advantage for US submarines was the deployment of 'SJ' surface search radar, which most submarines deployed by January 1943. The SJ was a directional radar, used to sweep the surrounding sea for targets. The radar masts could also be extending above the water before surfacing, to check the area for enemy warships and aircraft. This was considerably more effective than using the periscope, particularly on dark nights. As the campaign progressed, more advanced radars were fitted to submarines, which allowed fleet submarines to enjoy a considerable advantage in detection over their Japanese adversaries. See Holmes, *Undersea Victory*, p. 194; and Norman Friedman, *US Submarines Through 1945: an illustrated design history*, Naval Institute Press: Annapolis, 1995, pp. 235-8.
  26. Without signals intelligence, submarine operations would have been more difficult and costly because of the vast areas that had to be patrolled. Through intercept, cryptanalysis and translation of Japanese messages, signals intelligence provided a constant flow of information on Japanese naval and merchant shipping, convoy routing and composition as well as anti-submarine measures. In addition to the direct results, there were equally as important indirect outcomes of signals intelligence—an US analysis of signals intelligence in 1942 and 1943 provided additional proof that magnetic torpedo exploders were not functioning properly. The process for disseminating targetable information from these intercepts was streamlined by the Fleet Radio Unit, Pacific Fleet and a daily report would be radioed to patrolling submarines at noon. See John Winton, *Ultra in the Pacific*, Naval Institute Press: Annapolis, 1993, p. 192. See also Charles Lockwood, *Communications Intelligence Contributions to Submarine Warfare in World War 2*, Special Research History 235, US Navy, 17 June 1947: Department of the Navy – Naval Historical Center website, <<http://www.history.navy.mil/library/special/comint.htm>> accessed 20 September 2011.
  27. Spector, *Eagle Against the Sun*, p. 480.
  28. During the interwar years, the US Navy saw the Japanese as a future enemy. Planners assumed that any hostilities would start with a Japanese attack, followed by a wide-ranging naval conflict, with the Japanese being slowly pushed back across the Pacific to their home islands by the weight of the US Navy. At least initially, there was no role for submarines in connection with US fleet operations as part of this scheme, although they might be used as scouts. Operations such as commerce raiding would be carried out by light cruisers, not submarines, despite the lessons from German U-Boats in the Atlantic during World War 1. Even had the US Navy sought to emulate this success in a future war with Japan, there were no US submarines with the capability (especially range) to do so until the mid-1930s. See Parrish, *The Submarine*, pp. 318-9.
  29. Edward Miller, *War Plan Orange: the US strategy to defeat Japan 1897-1945*, Naval Institute Press: Annapolis, 1991, p. 152.
  30. Gunter Bischof and Robert Dupont (eds.), *The Pacific War Revisited*, Louisiana State University Press: Baton Rouge, 1997, p. 91.
  31. Miller, *War Plan Orange*, p. 319.
  32. Richard Dean-Burns, 'Regulating Submarine Warfare, 1921-41: a case study in arms control and limited war', *Military Affairs*, Vol. 35, No. 2, April 1971, pp. 58-9.

33. Samuel Morrison, *History of the US Naval Operations in World War II: Coral Sea, Midway and submarine operations*, Little, Brown and Company: Boston, 1988, p. 189.
34. Miller, *War Plan Orange*, p. 320.
35. However, Morrison in *History of the US Naval Operations in World War II* provides an additional driver for this rapid change in orientation towards unrestricted submarine operations. He asserts that Japan's calculated breach of treaties and international law at Pearl Harbor absolved the US from observing restrictions on naval warfare. While this may have played a small part in the calculations of US planners, the inherent logic of using submarines to choke off Japan's supply of overseas materials—as had been required by continuous iterations of War Plan Orange—was the more likely reason. As Dean-Burns notes in 'Regulating Submarine Warfare, 1921-41', p. 60, 'it was not reprisal so much as the military imperative that caused Washington to reverse its opinion on naval laws'.
36. These SORG groups employed IBM machines to analyse the debriefings of submarine crews. See Meigs, *Slide Rules and Submarines*, pp. 169-75. For the impact of the SORG, see also Friedman, *US Submarines Through 1945*, p. 234.
37. Holmes, *Undersea Victory*, p. 236.
38. US Government, *The United States Strategic Bombing Survey: the war against Japanese transportation 1941-1945*, Transportation Division: Washington DC, May 1947, p. 114.
39. Arthur Hezlet, *The Submarine and Sea Power*, Peter Davies: London, 1967, p. 215.
40. DeRose, *Unrestricted Warfare*, p. 170.
41. Hezlet, *The Submarine and Sea Power*, p. 215.
42. Parrish, *The Submarine*, p. 407.
43. Hezlet, *The Submarine and Sea Power*, pp. 219-20.
44. Blair, *Silent Victory*, p. 552.
45. From 19.4 to 16.4 million tons
46. The situation with tankers saw a net increase in tonnage from 686,000 tons to 863,000 tons. See Blair, *Silent Victory*, p. 552.
47. Lautenschlager, 'The Submarine in Naval Warfare, 1901-2001', p. 120.
48. Imports of bulk commodities in 1943 showed a sharp drop, from 19.4 million tons in 1942 to 16.4 million tons in 1943. As Atsushi Oi has noted, in August 1943 the Japanese also discovered that the sinking rate of torpedoed ships had drastically increased. Oi was a Japanese naval officer during the Second World War and served on the Grand Escort Fleet headquarters. See Atushi Oi, 'Why Japan's Anti-Submarine Warfare Failed', *US Naval Institute Proceedings*, Vol. 78, No. 6, June, 1952, p. 593.
49. Holmes, *Undersea Victory*, p. 273.
50. Holmes, *Undersea Victory*, p. 276. See also Hezlet, *The Submarine and Sea Power*, p. 225. When organised in December 1943, the 901st Air Flotilla was composed of one unit equipped with 48 land-based twin-engine bombers and another unit equipped with 32 four-engine flying boats. In January 1945, it reached its maximum strength of 168 aircraft of various types. See US Government, 'Interrogation Nav No. 74, Anti Submarine Warfare – Captain Kamide, 12 November 1943' in *The United States Strategic Bombing Survey: interrogations of Japanese officials*, OPNAV-P-03-100.
51. After the death of Admiral Kogo in 1944, his replacement Admiral Toyoda retained this concept, while revising it as the 'A-Go' operational plan. See Samuel Morrison, *History of the US Naval Operations in World War II, Vol. VIII: New Guinea and the Marianas, March 1944-August 1944*, Little, Brown and Company: Boston, 1989, pp. 12-4. Also Holmes, *Undersea Victory*, p. 357.
52. Holmes, *Undersea Victory*, pp. 302-29.
53. Holmes, *Undersea Victory*, p. 273.
54. US Government, *The United States Strategic Bombing Survey: the war against Japanese transportation 1941-1945*, p. 49.

55. Holmes, *Undersea Victory*, p. 329.
56. Blair, *Silent Victory*, p. 816.
57. Overy, *Why the Allies Won*, p. 229.
58. The *Kongo* on 21 Nov 1944. Joint Army-Navy Assessment Committee, *Japanese Naval and Merchant Shipping Losses During World War II by All Causes*, Joint Army-Navy Assessment Committee: Washington DC, February 1947, p. 18.
59. These were fleet carriers *Shokako* (30,000 tons) on June 19, *Taiho* (31,000 tons) on 19 June, *Shinano* (59,000 tons) on November 29 and *Unryu* (18,500 tons) on December 19; and the escort carriers *Otaka* (20,000 tons) on August 18, *Unyo* (20,000 tons) on September 16 and the *Jinyo* (21,000 tons) on November 17. See Joint Army-Navy Assessment Committee, *Japanese Naval and Merchant Shipping Losses During World War II by All Causes*, pp. 11-20.
60. Joint Army-Navy Assessment Committee, *Japanese Naval and Merchant Shipping Losses During World War II by All Causes*, pp. 8-20.
61. US Government, *The United States Strategic Bombing Survey: the war against Japanese transportation 1941-1945*, p. 5.
62. Blair, *Silent Victory*, p. 877.
63. Hezlet, *The Submarine and Sea Power*, pp. 223-7.
64. The performance of the smaller US submarine fleet in the Pacific was significantly better than that of the larger German submarine fleets in the Atlantic in both World Wars.
65. Blair, *Silent Victory*, pp. 877 and 991.
66. For a total of 5,320,000 tons. See Joint Army-Navy Assessment Committee, *Japanese Naval and Merchant Shipping Losses During World War II by All Causes*, p. vii. It is also estimated that submarines were responsible for the death of 67,000 Japanese merchant seamen during the war: see Y. Horie, 'The Failure of the Japanese Convoy Escort', *US Naval Institute Proceedings*, October 1956, p. 1081.
67. Joint Army-Navy Assessment Committee, *Japanese Naval and Merchant Shipping Losses During World War II by All Causes*, p. v.
68. US Government, *The United States Strategic Bombing Survey: the war against Japanese transportation 1941-1945*, pp. 2-4.
69. US Government, *The United States Strategic Bombing Survey: the war against Japanese transportation 1941-1945*, pp. 2-4.
70. Robert Pape, 'Why Japan Surrendered', *International Security*, Vol. 18, No. 2, Autumn 1993, p. 160.
71. See *Overall Plan for the Defeat of Japan: Report by the Combined Staff Planners, 2 December 1943 (CCS 417)*, contained in Louis Morton, *The United States Army in World War Two: strategy and command – the first two years*, Center of Military History: Washington DC, 1962, Appendix T.
72. Lautenschlager, 'The Submarine in Naval Warfare, 1901-2001', p. 119.

# Sea Control in Amphibious Operations<sup>1</sup>

Lieutenant Commander Josh Wilson, RAN

## Introduction

The acquisition of two Canberra-class amphibious ships represents a major financial investment by the Australian Government. However, it also brings with it significant strategic risk in terms of their vulnerability, with the spectre of one or both taking a significant proportion of Australia's expeditionary land forces to a watery grave lending serious weight to the debate. But how realistic are such fears and what is the capability of Force 2030<sup>2</sup> to protect these vital assets? Importantly, how will this affect Australia's ability to conduct amphibious operations, which are emerging as a key element of the overall *modus operandi* of the ADF?

This article examines the limitations that the requirement for sea control may place on the ability of Force 2030 to conduct self-reliant amphibious operations. It contends that the nexus is somewhat overstated and that while it may be desirable, not all types of amphibious operations actually require sea control in order to be effective. It will argue that when they do, Force 2030 is likely to be limited by its ability to establish sea control within the 'primary operating environment'<sup>3</sup> when conducting operations in areas outside its ability to project airpower. It also concludes that in the hypothetical scenario of a major power projecting force into the ADF's primary operating environment, Force 2030's sea denial strategy would relate almost exclusively to the defence of Australia, rather than the conduct of amphibious operations.

## Amphibious operations and sea control

In determining Force 2030's limitations in achieving sea control for amphibious operations, it is first important to establish what exactly is meant by amphibious operations. Current Australian doctrine defines them as an operation that seeks to transport land forces by sea and deploy them 'in a high state of tactical readiness in the absence of developed facilities',<sup>4</sup> making the clear distinction between amphibious operations and strategic sea lift, the latter essentially being transportation by sea in a benign environment and with established infrastructure at the points of embarkation and disembarkation.

Importantly, the doctrine makes no reference to the level or nature of opposition, either en route or at the destination, but only references the ability of the deployed force to execute a tactical effect in the absence of facilities at the destination. The lack of specific reference to the level of opposition—or even the presence of an opponent—becomes more understandable when the types of amphibious operations envisaged under the doctrine are considered. It outlines five types of operation, namely raids, demonstrations, assaults, withdrawals and military support operations.<sup>5</sup>

Such a range covers a spectrum of potential opponent levels and capabilities—but may not involve an opponent at all in certain military support operations, such as disaster relief and humanitarian assistance contingencies (some of which may better fit the definition of sea lift or maritime mobility, rather than amphibious operations).<sup>6</sup> However, the existence or level of opposition is important when examining the ability of Force 2030 to conduct self-

reliant amphibious operations because it directly affects the requirement or otherwise for 'sea control'.

'Sea control' is a concept that has developed from early naval theorists, such as Mahan and Corbett, and their idea of 'command of the sea'.<sup>7</sup> According to Corbett, command of the sea allowed a nation to control the maritime lines of communications and, importantly, deny them to an enemy.<sup>8</sup> In doing so, the barriers to the use of the seas were removed and the nation and its allies were able to utilise the maritime environment to further their common strategic objectives. In the modern era, this concept has evolved into that of 'control of the sea', which seeks to recognise that such command was contextual and would vary in time and geography, with the aim of accomplishing 'particular tasks in definite regions of the theatre in a concrete time period'.<sup>9</sup>

Along these lines, Australian doctrine defines sea control as that which seeks to 'allow a force the freedom of action to use an area of sea for its own purposes for a period of time, and deny the use to an opponent'.<sup>10</sup> When this doctrinal definition is considered against the definition of an amphibious operation, it can be seen that not all require sea control. In a number of military support operations, as already indicated, the need for sea control does not exist, so there would be no limiting factors on Force 2030's ability to conduct self-reliant amphibious operations. However, in the majority of amphibious operations, some level of opposition would likely be expected. But in those cases, does the existence of an opponent necessarily require that sea control be achieved in order to conduct an effective amphibious operation?

The need for sea control for the successful conduct of amphibious operations has been argued by a number of naval theorists. Till cites the case of the CSS *Merrimack* in the US Civil war, arguing that its presence constituted such a risk to an amphibious operation at Hampton Roads that it was not until its destruction that the Northern forces were able to utilise amphibious manoeuvre, resulting in their success at the battle of Drewrys Bluff.<sup>11</sup> Using a more recent example, Gatchel highlights the sea control established by the allies prior to the Normandy landings as a critical factor in their success.<sup>12</sup> The weakness in such an argument is that it is equally easy to find a contrary example, such as the success of the German invasion of Norway in the face of allied control of the sea.<sup>13</sup>

It is perhaps better to consider what sea control provides to an amphibious operation, which is typically agreed to be a reduction in risk. The Guadalcanal landings in World War Two are often cited as having been conducted without sea control.<sup>14</sup> In that case, the lack of sea control had an effect on the length of the campaign—and the number of casualties—and, at times, was a risk to its overall success.<sup>15</sup> Indeed, it can be argued that had prior sea control been attained, the campaign could have been shorter and casualties reduced, as it would have denied the Japanese the ability to resupply and support troops on the ground. What this highlights is that while there is no definitive answer on the need for sea control in amphibious operations, there is a link between sea control and risk.

Given this contended link, what does this mean for Force 2030? This article would argue that while it may be demonstrated that Force 2030 has limitations in its ability to establish sea control, these do not necessarily limit the force's ability to conduct self-reliant amphibious operations. Clearly, the option exists to employ the force without sea control, should the government-of-the-day deem the risk to be acceptable and warranted. Nevertheless, it is realistic to assume that the government's (and ADF's) preferable option would be to conduct

operations with some level of sea control. Accordingly, it is important to consider any limiting factors by developing an appreciation of the area in which the force may be required to operate and the potential adversaries.

## **The ADF's primary operating environment and potential adversaries**

As outlined in the 2009 Defence White Paper (DWP09), Force 2030 will need to be able to conduct amphibious operations in the primary operating environment it describes as encompassing 'the eastern Indian Ocean to the islands of Polynesia, and from the equator to the Southern Ocean'.<sup>16</sup> This environment includes 'the approaches to Australia', as well as a number of potential forward military bases and staging areas which an adversary might use in operations against Australia.<sup>17</sup> It is also the area where the ADF may be required to contribute to 'stability and security in the South Pacific and East Timor', which may include stabilisation operations.<sup>18</sup>

By extension, Force 2030 may be required to exercise sea control anywhere within this area in support of self-reliant amphibious operations.<sup>19</sup> For the purposes of discussion, potential opposition to the ADF's exercise of sea control may be considered under three categories. The first is relatively minor military/paramilitary or insurgent forces which might arise in some of the smaller island nations.<sup>20</sup> The second would be the more conventional forces of a regional state, with the latent or potential capability to develop operating bases or staging areas for possible operations against Australia or its offshore territories.<sup>21</sup> The third category would be the forces of a major Asia-Pacific power, with the capability to project force into the ADF's primary operating environment and/or occupy another regional state or offshore Australian territory.<sup>22</sup>

### ***Minor military/paramilitary or insurgent forces of smaller island nations***

It terms of the first category, Force 2030 should face no limitations in establishing sea control in support of amphibious operations against or involving these forces.

### ***Conventional forces of a regional state***

In terms of the lower-end of the second category, Force 2030 might be opposed by a limited maritime force and/or face some level of asymmetric attack.<sup>23</sup> In response, Force 2030 could deploy modern warships employing sophisticated weapon and surveillance systems, such as phased-array radars and unmanned aerial vehicles, linking to air strike assets, providing a capability far in excess of others in the immediate region.<sup>24</sup> In countering any asymmetric attack, these capabilities would be equally suitable in providing protection from maritime attacks, as demonstrated during coalition operations in the northern Arabian Gulf during Operation SLIPPER.<sup>25</sup> In addition, an opponent's use of mines, similar to the North Korean example during the Korean War, could be countered by Force 2030's mine warfare assets operating under the protection of other elements of the force.<sup>26</sup>

Against a regional state at the higher-end of this category, Force 2030 might face one significant limitation in its ability to establish sea control. This centres on its ability to project sufficient air power to establish air control as an enabler of sea control. Such a limitation is not absolute but would be dependent on the key variables of range and duration. For example, if Force 2030 was operating in an area enabling the full employment of its air control capability—which



included the planned Joint Strike Fighter (JSF)—it arguably would be capable of attaining air and sea control over any potential regional adversary.<sup>27</sup> Indeed, while some have argued that aircraft such as the Su-30 Mk2 may be of equal or even superior capability to the JSF or Super Hornet, the latter are only one element of a highly-capable ADF ‘package’, incorporating such capabilities as air-to-air refuelling, airborne early warning and control (AEW&C), and the air warfare destroyer (AWD)-based phased-array radar system.<sup>28</sup>

Moreover, even in an environment where the ADF’s access to airpower may be limited, Force 2030 would likely still have the ability to exercise sufficient air denial in the short term to allow the attainment of sea control for such amphibious operations as raids and withdrawals. This is based on the capability proposed in the AWD and future frigates. Together with AEW&C aircraft, these warships will have the ability to detect and engage aircraft out to 300 nautical miles through the use of phased-array radars, cooperative engagement capabilities and the use of SM-6 surface-to-air missiles.<sup>29</sup>

Such a system also has significant capability to detect and destroy sea-skimming missiles at beyond-the-horizon ranges, particularly when operating against current-generation missile systems.<sup>30</sup> As demonstrated during the Falklands War, surface ships are vulnerable to sea-skimming missiles and most have limited inventories of surface-to-air missiles to counter them.<sup>31</sup> However, analysis of the Falklands War has shown that units armed with then-modern air warfare systems were quite capable against the Argentine missile threat and that it was older units with less capable systems that were particularly vulnerable.<sup>32</sup> Force 2030’s inventory of surface-to-air missiles would, of course, be a factor in assessing its ‘persistence’ and its ability to successfully exercise air denial for more than a limited duration.

Having identified airpower projection as a limiting factor in achieving sea control, are there any other factors which may affect Force 2030? An argument has been made by strategists such as Hugh White that Force 2030 would be vulnerable to submarine attack and that this will limit its ability to achieve sea control.<sup>33</sup> However, on current planning, Force 2030 will have a fleet of up to twelve submarines (often touted as the best platform to counter opposing submarines), which would provide a significant numerical advantage over any regional state.<sup>34</sup> Added to this is the additional anti-submarine warfare (ASW) capability proposed in Force 2030, including SH-60R helicopters with dipping sonar, the P-8 maritime patrol aircraft and the improved sonar suites of the AWD and future frigates.<sup>35</sup>

All this adds up to a significant capability to locate and neutralise any regional ASW threat. Arguments against this capability—based on the difficulties of ASW in the littoral and the time that may be required to locate a submarine in this environment—are valid but fail to recognise that the environment also poses significant challenges for submarine operations.<sup>36</sup> When this is coupled with the technologically-integrated and numerically-superior capabilities of Force 2030, the argument for the littoral advantage of potential adversaries arguably lacks credibility.

The one limiting factor on the ability of Force 2030 to conduct ASW relates to its heavy reliance on airborne assets. As previously indicated, Force 2030 could face limitations in its ability to achieve air control. If this is the case, there is some prospect that the impact of airborne ASW assets would be negated. While surface units and submarines would remain capable, they would require extended times to cover distance and face elevated risk in intercepting and neutralising an adversary’s submarines. This is conceded but in the context of Force 2030’s airpower projection shortfalls, rather than its actual ASW capability to achieve sea control.

## *The forces of a major Asia-Pacific power*

In the case of a major power projecting force into the ADF's primary operating environment, Force 2030 would face significant challenges, although the hypothetical nature of such an eventuality makes it difficult to assess the limitations. As has been seen in the consideration of Force 2030's ability to achieve sea control against a regional state adversary, the proximity of airpower assets in this scenario would affect the exercise of air control, as well as the airborne-related ASW capability. That said, an opponent's likely significantly large number of  $\geq 5$ th generation fighters, with enabling assets, may be sufficient to overwhelm Force 2030 even if not constrained by range.<sup>37</sup> In addition, it could be expected that a major Asia-Pacific power would have large fleets of highly-capable submarines and surface ships, further complicating the ability to achieve sea control.

The slight consolation is that a major power would likely be sacrificing a considerable advantage in projecting power over a considerable distance, as highlighted by maritime strategists such as Kearsley.<sup>38</sup> Even so, the reality is that in the face of the capability currently envisaged for the key major powers in the Asia-Pacific region, Force 2030 alone would face an almost insurmountable challenge.<sup>39</sup>

Moreover, it would be difficult to envisage a scenario where an amphibious operation might be considered against such a force, with the exception of an amphibious raid or the repositioning of forces in an operational setting. As could be expected, strategic guidance indicates that—faced with a major power projecting force into our immediate region—Force 2030's priority would be sea control in order to deny the use of the sea for operations against Australia.<sup>40</sup>

## **Conclusion**

This article has examined the limitations that the requirement for sea control place on the ability of Force 2030 to conduct self-reliant amphibious operations. It has argued that the notion (or perhaps the perception) that amphibious operations require sea control is somewhat flawed, as some operations will have no opponent, while others may be able to be conducted successfully without it. What has been conceded, however, is that sea control reduces the risk in the conduct of the amphibious operations.

That said, it is also acknowledged that sea control is desirable. And within Australia's primary operating environment, it has been argued that Force 2030's ability to exercise sea control in support of amphibious operations is likely to be relatively strong with two exceptions. The first would be where Force 2030, in operations against the conventional forces of a regional state, may be forced to operate in areas where it is unable to project air power. In such circumstances, Force 2030 would lack the ability to establish sea control against an air threat and would also likely struggle to counter the threat from submarines.

The second is where a major Asia-Pacific power projected force into the ADF's primary operating environment. In that hypothetical scenario, Force 2030's ability to achieve sea control would likely be severely limited. However, it is also highly unlikely that Force 2030 would be seeking to conduct amphibious operations; rather, the ADF's sea denial strategy would understandably be focused on the defence of Australia.

Lieutenant Commander Wilson joined the RAN in 1997 as a Seaman Officer. Since then, he has served at sea in a number of RAN frigates and saw operational service in East Timor and the Middle East area of operations. He also has instructed air warfare and gunnery as a member of the Principal Warfare Officer faculty at HMAS Watson. He is a recent graduate of the Australian Command and Staff College, and is currently the project director for the design and implementation of the Navy Capability Management System.

## NOTES

1. This is an abridged version of a paper, titled 'Amphibious operations require sea control in order to be effectively implemented. To what extent does this requirement limit the ability of Force 2030 to conduct self-reliant amphibious operations?', submitted by the author while attending the Australian Command and Staff College at the Australian Defence College in 2012.
2. Force 2030 is the ADF's military force as outlined in the 2009 Defence White Paper: see Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, Commonwealth of Australia: Canberra, 2009.
3. The primary operating environment, as defined later in this article, encompasses 'the eastern Indian Ocean to the islands of Polynesia, and from the equator to the Southern Ocean': see *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 51.
4. Department of Defence, *Australian Maritime Doctrine*, Commonwealth of Australia: Canberra, 2010, p. 107.
5. Department of Defence, *The Navy Contribution to Australian Maritime Operations*, Commonwealth of Australia: Canberra, 2005, pp. 105-6.
6. Under Australian doctrine, sea lift or maritime mobility is seen as conducting maritime transport in a benign environment, utilising existing infrastructure at departure and arrival, and provides personnel in a non-tactical manner, which will require organisation on arrival: see Department of Defence, *The Navy Contribution to Australian Maritime Operations*, p. 105.
7. G. Till, *Seapower: a guide for the 21st century*, Routledge: London, 2004, p. 156.
8. J.S. Corbett, *Some Principles of Maritime Strategy*, Longmans, Green and Co: London, 1911, p. 90.
9. Till, *Seapower: a guide for the 21st century*, p. 156.
10. Department of Defence, *Australian Maritime Doctrine*, p. 72.
11. Till, *Seapower: a guide for the 21st century*, pp. 210-11.
12. T.L. Gatchel, *At the Water's Edge*, Naval Institute Press: Annapolis, 1996, p. 205.
13. M. Vego, *Operational Warfare at Sea*, Routledge: London, 2009, p. 137.
14. During the amphibious operation to seize Guadalcanal, allied forces were unable to achieve complete sea control, resulting in naval forces being forced to withdraw for periods of time. This allowed Japanese forces the opportunity to both resupply and utilise maritime units in support of the ground campaign: see W.S. Lind, *Manoeuvre Warfare Handbook*, Westview Press: London, 1985, p. 37.
15. Vego, *Operational Warfare at Sea*, p. 53.
16. Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 51.
17. Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 53.
18. Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 54.
19. DWP09 does not support the view that Australia may need the capability to conduct these operations independently outside the primary operating environment (and the capability of Force 2030 to do so will not be considered further in this article): see Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 65.

20. This is based on the Government's commitment to stability and security within the South Pacific and East Timor area, as outlined in Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 54.
21. Such a requirement is argued to extend from the previously-stated desire to disrupt possible military bases and staging areas: see Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 53.
22. Based on government guidance stating the possibility that Australia may have to contend with a major power operating in the approaches to Australia, and may need to meet such a situation without combat support from other nations: see Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 65.
23. Of all the nations within the ADF's primary operating environment, only Indonesia has a submarine or air strike capability: see, for example, Jane's, *World Navies*, 2012: see <<http://jwna.janes.com/IntelCentre/JWNA>> accessed 14 July 2012.
24. Jane's, *World Navies*.
25. Department of Defence, *Australian Maritime Doctrine*, p. 107.
26. In this case, despite having practically no naval forces, the North Koreans were able to deny the allied forces sea control in a region through their use of mines: see Till, *Seapower: a guide for the 21st century*, p. 219.
27. Current estimates give JSF a combat radius of 580 nm without tanker support. The KC-30 refuelling capability would extend this range, allowing airpower to be projected from bases in Australia into Indonesia and West Papua: see A. Borgu, *A Big Deal, Australia's Future Air Combat Capability*, Australian Strategic Policy Institute (ASPI): Canberra, 2004, p. 42.
28. C. Kopp, 'SU 30 vs. RAAF Alternatives', *Australian Aviation*, September 2003, p. 37.
29. Sea Power Centre-Australia, 'The Navy's New Aegis', *Semaphore*, No. 7, 2009, p. 2.
30. Jane's, *World Navies*.
31. J.R. Hill, *Air Defence at Sea*, Ian Allan: London, 1988, p. 13.
32. A. Preston, *Sea Combat off the Falklands*, Collins: London, 1982, pp. 113-14. Preston argues the modern Seawolf armed units performed well against Argentinian forces and that the majority of failures in the performance of naval surface-to-air missiles were attributable to the older Seacat and Seaslug missiles.
33. H. White, *Buying Air Warfare Destroyers: a strategic decision*, Lowy Institute for International Policy: Sydney, 2005, p. 6.
34. A. Davies, 'Navy Capability Review 2010', ASPI Policy Analysis, 2010, No. 65, p. 6; also A. Davies, 'The Enemy Below: Anti-Submarine Warfare and the ADF', ASPI Special Report, Vol. 2, 2007, p. 20.
35. Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 72.
36. Davies, 'The Enemy Below: Anti-Submarine Warfare and the ADF', p. 23.
37. C. Kopp, 'Chengdu J-XX Stealth Fighter Prototype', *Air Power Australia*, 2011: <<http://www.airspacepower.net/APA-J-XX-Prototype.html#mozTocId699029>> accessed 14 July 2012.
38. H.J. Kearsley, *Maritime Power in the Twenty First Century*, Dartmouth Publishing Company: Dartmouth, 1992, p. 103.
39. B. Pacey, 'Australia's Future Surface Combatants', Kokoda Foundation Papers, No 11, June 2010, p. 25.
40. Department of Defence, *Defending Australia in the Asia-Pacific Century: Force 2030*, p. 53.

# Japan's Energy Security Challenges<sup>1</sup>

Linda McCann, Department of Defence

This time of hardship is the ideal moment for Japan to overcome its inward-looking tendency and soar like a dragon, fulfilling more actively than ever the role we are called upon to perform in the world.<sup>2</sup>

Koichiro Gemba, Japan's then Foreign Minister, 2012

## Introduction

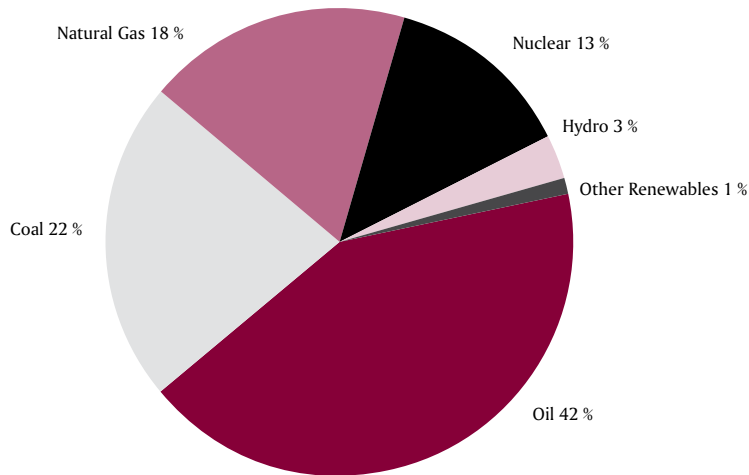
On 11 March 2011, an earthquake registering 9.0 on the Richter scale struck off the northeast coast of Japan. The earthquake and subsequent tsunami resulted in the death of over 20,000 people and caused an estimated \$US200 billion worth of damage, making it the costliest natural disaster ever. It also caused a major meltdown of three reactors at Japan's Fukushima Daiichi nuclear power plant, resulting in tens of thousands of people being evacuated and the eventual shut-down of all Japan's nuclear power plants. Almost two years later, Japan is still to decide if nuclear power will be reinstated as an eventual energy source.<sup>3</sup>

Japan was facing significant energy security challenges before the events of 2011.<sup>4</sup> With almost no indigenous energy resources, Japan in 2010 imported some 96 per cent of its energy requirements, with almost 90 per cent of its oil coming from the Middle East,<sup>5</sup> as well as 27 per cent of its gas imports.<sup>6</sup> While nuclear power only accounted for 13 per cent of Japan's overall energy consumption before the accident,<sup>7</sup> it provided 30 per cent of Japan's electricity consumption, with plans to increase this to 50 per cent by 2050.<sup>8</sup>

The meltdown at the Fukushima Daiichi plant has thrown Japan's long-term energy plans into turmoil. While Japan's reliance on nuclear power has always had its detractors, there is now strong popular support for completely rejecting nuclear power. But rejecting nuclear power would likely result in increased energy costs, lower energy self-sufficiency and the need for a serious review of its foreign policy, notably in improving its relations with China on exploration efforts in the disputed East China Sea, and with Russia, which produces more oil and gas than any other country in the world.<sup>9</sup>

## Japan's energy profile

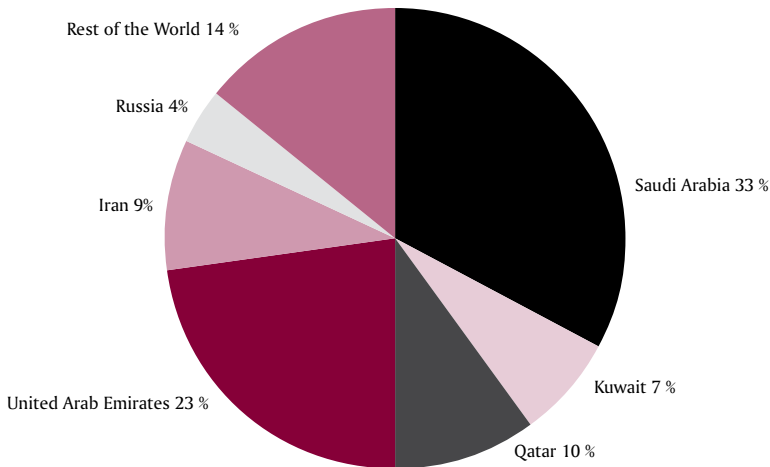
By far the largest energy source consumed in Japan is oil (see Figure 1), which accounts for almost half the energy supplied. This is down from a peak of 77 per cent in 1973, after which Japan had a deliberate policy of diversifying away from oil to alternative energy resources.<sup>10</sup> In 1973, for example, natural gas only accounted for 2 per cent of Japan's primary energy imports, whereas this had increased to 18 per cent by 2010.<sup>11</sup>



**Figure 1: Japan's total energy consumption in 2010<sup>12</sup>**

(Source: EIA *International Energy Statistics*)

Japan imports 384 million tonnes of oil equivalent of energy each year, making it the second largest energy importer behind the US, based on 2009 figures.<sup>13</sup> Despite initiatives to diversify the types and sources of energy used since the oil shocks of the 1970s, Japan still imports almost all its requirements from the Middle East (see Figure 2).



**Figure 2: Japan's crude oil imports by source in 2011<sup>14</sup>**

(Source: Global Trade Atlas, *Japanese Government*)

Japan is the world's third largest consumer of electricity. In terms of electricity production, the contribution of refined oil has decreased since the 1970s, with percentages generated from coal, liquefied natural gas (LNG) and nuclear power increasing significantly (see Figure 3). Japan has invested over US\$70 billion in nuclear power research since the 1980s<sup>15</sup> and, until the Fukushima accident, had the world's third largest nuclear generating capacity.

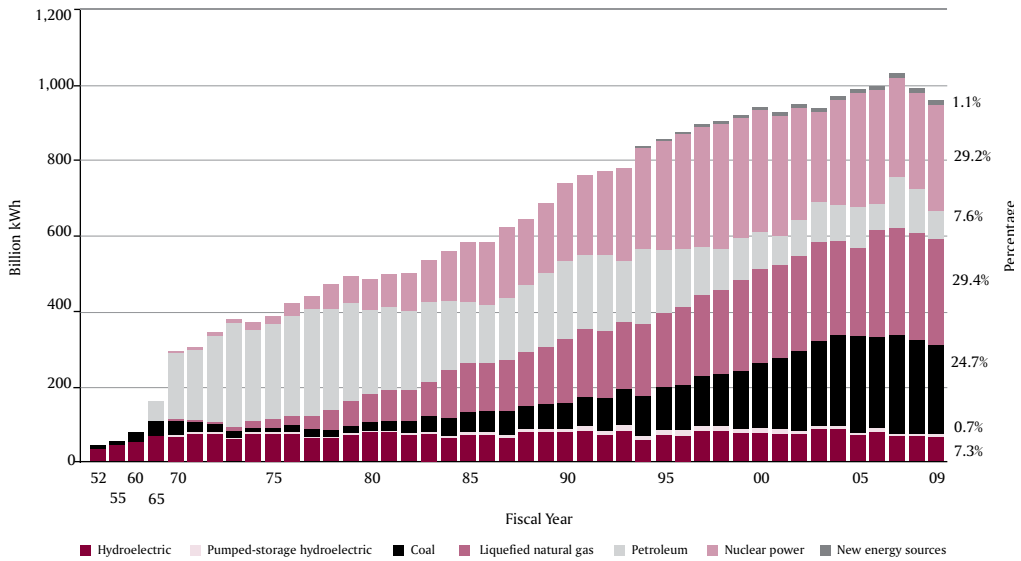


Figure 3: Japan's electricity production<sup>16</sup>

In 2011, the Japanese government published a report outlining the cost of various power-generation methods (see Table 1); it concluded that nuclear power is the least expensive, with residential solar power the most expensive (although the report acknowledged that wind-power and solar-power generation both have the potential to significantly decrease in cost by 2030, making them more competitive).<sup>17</sup>

Energy type	Estimated cost
Nuclear power	> 8.9 yen/kWh
Coal-fired thermal	9.5-9.7yen/kWh
LNG thermal	10.7 - 11.1yen/kWh
Oil-fired thermal	> 20yen/kWh
Wind power	9.9 - 17.3 yen/kWh
Residential solar power	33.4 - 38.3 yen/kWh

Table 1: Comparison of power-generation costs

### Japan's long term energy strategy

Particularly over the past 30 years, Japan has progressively employed a number of strategies to improve its energy security. Its most recent was released as the 'Strategic Energy Plan of Japan' in 2010.<sup>18</sup> One of its targets was to double Japan's energy self-sufficiency ratio to about 40 per cent by 2030, to be achieved by reducing the consumption of natural gas, coal and oil, while increasing the consumption of renewable and nuclear energy (by 91 and 103 per cent respectively).<sup>19</sup>

Japan has also worked hard to diversify its energy sources away from oil. Indeed, Japan's push to diversify away from oil was so successful that, by 1985, it was responsible for almost three quarters of the world's LNG demand and played a leading role in launching the LNG industry globally. Natural gas also has the benefit of being available from many suppliers, as opposed to oil which is largely concentrated in the Middle East.

### ***Reducing its dependency on Middle Eastern oil***

While Japan has been quite successful at decreasing its oil dependence, it has not managed to significantly decrease its overall dependence on the Middle East. Following concerted efforts in the 1970s, the percentage of Japan's crude oil imported from the Middle East decreased to around 70 per cent in the late 1980s but, by the late 1990s, it was back up to almost 90 per cent.<sup>20</sup> This puts Japan in a vulnerable position, relying on an oil supply from one of the most politically-unstable regions in the world, and on a transit route incorporating several of the world's key maritime choke points.

In February 2011, when oil prices rose as a result of the Arab Spring, then Japanese Prime Minister Kan expressed concern that 'Japan relies on the Middle East for almost all the oil it needs'.<sup>21</sup> Economy, Trade and Industry Minister Banri Kaieda echoed those concerns when he noted the prospect of Japan's economic recovery being affected by 'rising crude oil prices due to political unrest in the Middle East'.<sup>22</sup> In addressing that prospect, Japanese Foreign Minister Gemba in January 2012 asserted the need for Japan to 'build stronger relationships with resource-supplying countries and the countries that lie along the transportation routes'.<sup>23</sup>

Japan is in a strong position to enhance its economic relations with many Middle Eastern countries, where its combination of business acumen, technology edge and management skills are valuable commodities. Japan has made a tentative start via the Japan International Cooperation Agency (JICA), establishing offices across the Middle East and engaging in a number of small, collaborative projects, following a philosophy known as the 'Corridor of Peace and Prosperity', developed by Japanese diplomat Hideaki Yamamoto in 2006, using skills and finance to encourage greater regional cooperation.<sup>24</sup>

In terms of protecting the supply of Middle Eastern oil en route to Japan, a declared priority of the Japanese Maritime Self Defense Force (JMSDF) is 'proactive efforts to improve the international security environment'.<sup>25</sup> To that end, Japan already operates as part of Combined Maritime Forces (CMF), headquartered in Bahrain.<sup>26</sup> Its role is to promote security, stability and prosperity in the Middle East, home to some of the world's most important shipping routes. Japan has worked with this coalition of 26 nations since 2003 and, while it operates independently, it has three liaison officers in CMF's headquarters, and allocates ships and maritime surveillance aircraft to escort Japanese convoys through the Gulf of Aden.

Another embryonic initiative, following the signing of an India-Japan security agreement in 2008, involves Japan building its relationship with India to improve the security of Indian Ocean sea lanes of communication (SLOCs).<sup>27</sup> Assistant Professor Rupakjyoti Borah, at the Pandit Deendayal Petroleum University in India, has cited the scope for improved defence relations between the two, especially in the areas of maritime security and energy security, already exemplified by the coastguards of both countries exercising together since 2000.<sup>28</sup>



## ***Resource-related diplomacy***

### **Russia**

Japan currently sources only four per cent of its crude oil from Russia.<sup>29</sup> However, the arguments for Japan sourcing more of its requirements from Russia are overwhelming, notwithstanding the current lack of infrastructure to support such an arrangement. While estimates vary on the size of Russia's oil reserves, in 2010 it produced more oil than Saudi Arabia, making it the world's largest oil producer that year; it was also the world's largest gas producer.<sup>30</sup> Russia borders Japan, so any oil going from Russia to Japan would travel a much shorter distance than oil coming from the Middle East. It would also avoid the relatively vulnerable straits of Hormuz and Malacca. So importing more oil from Russia and less from the Middle East would decrease costs and increase the reliability of energy supply over the longer term.

For its part, Russia relies heavily on its resources sector to maintain its GDP, with oil and gas comprising 65 per cent of its exports in 2011.<sup>31</sup> Russia is also keen to develop its oil and gas fields in the far east and far north of the country, which will need significant foreign investment and assistance—a perfect opening for energy-poor Japan. Additionally, while Russia's main markets have traditionally been in Europe, Russian President Putin has made clear that his focus is on the Asia Pacific.<sup>32</sup>

A significant impediment to improved relations between Japan and Russia is their unresolved territorial dispute over islands to the north of Japan, which Japan refers to as the Northern Territories and Russia calls the Kuril Islands. While the claims are complex and deep-seated, the relationship between the two countries seems to have improved somewhat in recent times. When the two countries' leaders met in June 2012 on the margins of the G20 Summit in Mexico, both leaders reportedly 'agreed on reactivating negotiations concerning the territorial issue, and instructed their respective foreign ministries to carry forward substantial discussions in a calm environment'.<sup>33</sup>

The opening of an LNG plant at Russia's Sakhalin-2 oilfield in 2009, and the agreement to supply gas to Osaka (>967 trillion cubic feet of LNG a year) through to 2030, was an important milestone for Japan-Russia relations.<sup>34</sup> This, along with other bilateral energy commercial agreements, led to then Japanese Prime Minister Taro Aso expressing hope that these projects would lead to improved broader bilateral relations, including eventual resolution of the northern territories dispute.<sup>35</sup>

### **China**

In 2003, China became the world's second largest consumer of oil, overtaking Japan.<sup>36</sup> As both countries race to secure energy supplies, tensions have inevitably been created. Indeed, competition between them has served to increase the price paid for oil in Asia in recent years—the so-called 'Asian premium'.<sup>37</sup> Nevertheless, China and Japan have begun a dialogue on several energy issues, relying on common strategic interests stemming from the need to improve energy conservation, energy diversification and the reduction of pollution. Their energy ministers met in April 2007, for example, and issued a joint statement on the 'enhancement of cooperation ... in the energy field', specifically agreeing to facilitate cooperation in energy conservation, clean coal technology and renewables.<sup>38</sup>

The most significant impediment to closer energy cooperation in the bilateral relationship is their territorial dispute in the East China Sea, where both claim sovereignty over the Senkaku/Diaoyu Islands (they also disagree on the sea boundary between their countries). Ownership of the islands would legitimise access to significant offshore resources in the East China Sea, where total gas reserves are estimated at between 15 and 250 trillion cubic feet, and total oil reserves between 70 and 160 billion barrels.<sup>39</sup> While both China and Japan have offered joint development in the disputed areas, neither can agree to the conditions proposed by the other.<sup>40</sup> Minor incidents and incursions continue to heighten tensions, as well as rhetoric such as Beijing's assertion in July 2012 that the 'Diaoyu Islands ... have always been China's territory since ancient times, over which China has indisputable sovereignty'.<sup>41</sup>

## **Australia**

Australia is an attractive energy supply partner to Japan. Geographic proximity keeps transport costs relatively low and minimises potential risks to the safe transport of energy resources to Japan. During a visit to Australia in May 2012, then vice president of the Japanese upper house Masayuki Naoshima said 'Australia is one of the most important countries for Japan in terms of natural resources supply', asserting that LNG and coal are on top of Japan's shopping list.<sup>42</sup> Exemplifying those comments, Tokyo Electric Power signed a deal with Chevron in 2011 to buy 3.1 million tonnes of LNG a year for 20 years from the Wheatstone gas project in Western Australia, while Tohoku Electric Power signed a preliminary agreement with Chevron in May 2012 for 1 million tonnes a year of LNG from Wheatstone for 20 years.<sup>43</sup>

## **The impact of Fukushima on Japan's energy security**

Ten of Japan's 36 nuclear plants were shut down directly by the March 2011 earthquake.<sup>44</sup> By early May 2012, all had been shut down for maintenance or safety checks, leaving Japan with no nuclear power capacity for the first time in 42 years.<sup>45</sup> But the meltdown at the Fukushima Daiichi nuclear power plant also had significant effects on oil, LNG and gas supplies in the broader region. For example, the gas supply was interrupted in eight prefectures (affecting 400,000 households) and an LNG base was closed for the first time ever in Japan (at Sendai City). In addition, oil refineries, oil terminals, tanker trucks and petrol stations were damaged, interrupting energy supply even further afield.

To cope with the electricity shortfall, Japan has turned largely to fossil fuels, importing increasing amounts of LNG and coal, and recommissioning previously-mothballed thermal power stations. Japan's fuel imports after the tsunami increased by 25 per cent, with fuel imports as a percentage of GDP increasing from 3.6 to 4.6 per cent.<sup>46</sup> LNG imports increased by 17.9 per cent and, by the end of 2011, exceeded one per cent of GDP.<sup>47</sup>

The Japanese Government has been scrambling to find acceptable solutions to Japan's immediate energy demands caused by the shut-down of the nuclear power plants. One option has been to decentralise control of electricity generation and have local governments take more control of their respective jurisdictions. However, Japan's electricity grid operates on two different frequencies, making it almost impossible to share electricity between east and west Japan.<sup>48</sup>

## *Addressing the safety concerns of nuclear power*

Following the disaster, then Prime Minister Naoto Kan announced that Japan would aim to reduce nuclear power to zero. When Prime Minister Noda took over in September 2011, he modified this goal to reducing nuclear dependence ‘as much as possible’ over the mid to long term.<sup>49</sup> For Japan to turn away from nuclear power altogether would be very expensive, both in the short and long term. In the short term, electricity supply will not be able to meet demand.<sup>50</sup> In the longer term, rejecting nuclear power would mean buying more expensive alternative energy resources and a significant investment in alternative infrastructure.

Needless to say, Japan’s leadership will either have to restore the public’s confidence in the safety of nuclear power or find energy alternatives, sufficient not just to meet the 30 per cent of electricity generated in 2011 but the increasing projections out to 2050 on which Japan’s energy plans had been based pre-Fukushima. The options currently being discussed range from abandoning nuclear power completely, through reducing dependency on nuclear power to maintaining nuclear power generation at current ratios.<sup>51</sup>

The arguments for Japan to retain nuclear power, particularly in the short term, are clear: generating electricity from an established nuclear power plant creates no carbon dioxide or other climate-relevant emissions;<sup>52</sup> including nuclear in Japan’s energy mix improves power source diversification; it is relatively cheap, especially after initial capital costs; it increases Japan’s self-sufficiency ratio if reprocessed fuel is used; and the infrastructure already exists.

There have been many vocal supporters of retaining a nuclear power capacity in Japan, both domestically and abroad. Japan’s Institute of Energy Economics said in February 2012 that ‘the contribution of nuclear energy to enhancing energy security is not small in view of its low cost, large scale and high energy density’.<sup>53</sup> Official Japanese estimates are that if Japan turns away from nuclear power altogether, the Japanese economy could shrink by five per cent by 2030.<sup>54</sup> The OECD has been urging Japan to restart its nuclear power generating plants, with Secretary General Angel Gurría making the somewhat obvious statement in April 2012 that ‘you cannot substitute 30 per cent of installed capacity overnight’.<sup>55</sup>

Understandably, the ‘not in my backyard’ sentiment—fuelled by fears of a recurrent spread of radiation from further Chernobyl-type disasters—has become increasingly vocal in Japan. Japan’s location in relation to the Pacific and Okhotsk tectonic plates almost guarantees further major earthquakes and tsunamis, with associated risks to energy-related infrastructure.

While several commentators believe the Japanese public are unlikely to accept the reintroduction of nuclear power, local residents in at least two areas have already agreed to restart nuclear reactors, citing damage to the local economy and high levels of unemployment should they remain shut down.<sup>56</sup> In early July 2012, one of these reactors was restarted, albeit accompanied by public demonstrations and ongoing weekly public demonstrations in Tokyo, with estimates of protest numbers varying from 17,000 to 150,000. The most important point is that there have been demonstrations at all, as public protests are rare in Japan, illustrating the extent of public concern over the safety of nuclear power.

## ***Other environmental and economic issues***

Replacing much of the nuclear capacity with fossil fuels in the short to medium term will have a significant effect on Japan's greenhouse gas emissions. Even before the disaster, Japan was relying on coal for a significant amount of its electricity production, and lagging other OECD countries in the development of its renewable energy industry. However, in June 2011, then Prime Minister Kan outlined a plan to increase the contribution of renewables to 20 per cent by 2020. Since then, renewable-related legislation has been introduced, with related feed-in-tariff schemes and government plans to put solar panels on 10 million roofs by 2030.<sup>57</sup>

The reality also is that Japan cannot afford to keep importing so much energy. Japan's public debt to GDP ratio is the worst in the world, at 230 per cent; by way of comparison, the EU's public debt to GDP ratio is 82.5 per cent<sup>58</sup> and Australia's is 23 per cent.<sup>59</sup> While most of this debt is owed to the Japanese public, it still creates a significant issue for government fiscal management. In January 2012, Japan's trade deficit was a record ¥1.48 trillion (~US\$17 billion), due in part to large imports of LNG and other energy.<sup>60</sup> Japan's trade deficit in 2011 was the first in 31 years and attributed in part to rising crude oil prices, the increase in the price of LNG and the rise in LNG imports.<sup>61</sup> What was so notable about the trade deficit in 2011 was that Japan went from a trade surplus of ¥6.6 trillion in 2010 to a deficit of ¥2.6 trillion.

As demand for oil increases in the region, so will prices. Oil consumption between 1999 and 2009 has increased more than twice as fast in East and Southeast Asia as the world average.<sup>62</sup> This is mainly due to the high rates of economic growth in the region, with accompanying industrialisation, urbanisation, increasing numbers of cars on the road and increases in the standard of living, particularly in China.<sup>63</sup> Indeed, oil consumption is so high in the region that only Brunei, Malaysia and Vietnam are net exporters. And while Japan's oil demand has fallen—down from 60 per cent of Asia's entire oil demand in the 1970s—it remains the world's third largest oil consumer and the third largest net oil importer.<sup>64</sup>

Adding to its dilemma is that the US has been pressuring Japan to reduce the amount of oil it buys from Iran. While Japan has largely complied with US requests to boycott Iranian oil, its heavy reliance on oil—particularly as a replacement for nuclear power—will make its continuing compliance with the embargo very difficult.

## **Conclusion**

The next year or so will be very important for Japan's energy security. Policy makers will need to decide to what extent, if at all, nuclear power should contribute to Japan's future energy mix. If there is to be no nuclear energy or a significant downscaling, the Government will need to commit to robust measures to encourage the development of alternative energy sources. Japan has the natural resources required for many renewable types of energy, such as sunlight, wind, waves and flowing rivers, and has the technology to develop the industry. But the sector would need considerable Government investment and support to become a mainstream supplier.

In the short term, the arguments for retaining nuclear-generated electricity seem overwhelming. Japan's economy is already relatively fragile, with the largest public sector borrowing in the world. Switching on at least some of the reactors would help guard against power shortages that would have a negative effect on the economy. One option could be ranking

the reactors in terms of safety risk factors and location (particularly east versus southwestern Japan) and switching them back on in this order, at least until Japan's renewable energy sector is sufficiently developed or until alternative supplies of fossil fuels and accompanying infrastructure are established.

If Japan decides against recommissioning a significant number of the nuclear power plants, it will need to continue to rely on increasing amounts of imported fossil fuels, which will be costly (and with significant ramifications for its greenhouse gas emission targets). On the one hand, that could provide a 'shot in the arm' for Japan's international engagement strategy, forcing Tokyo to review a number of its bilateral relations, as discussed earlier in this article.

Ironically, at least to date, the Fukushima disaster seems to have left many Japanese policy makers looking inwards, instead of outwards. Yet Japan has an opportunity to reach out across East Asia and further afield to improve a number of its relations, both bilaterally and multilaterally. In the words of the former executive director of the International Energy Agency, Nobuo Tanaka, 'abundant and cheap energy [for Japan] is a thing of the past now. Japan has to formulate its energy policy based not solely on domestic context but on energy security for the whole of Asia'.<sup>65</sup>

While Japan has already been engaging a number of its neighbours as part of its energy resource diplomacy, the Fukushima disaster has provided the opportunity not only to secure beneficial energy deals with Russia but to improve relations with its largest neighbour. More broadly, Japan could also be more active in sharing its technology in areas such as energy conservation, diversification, renewable energies and oil stockpiling with other Asian countries. If Japan widely shares its energy saving technology, especially with developing economies, there will be benefits across the region in the shape of easing demand pressures and making Kyoto targets more achievable.

As Tomoko Murakami of Japan's Nuclear Energy Group wrote in May 2012, 'Japanese policy chiefs must remind themselves that the whole world is watching how Japan deals with this issue'.<sup>66</sup> Japan's efforts to reduce its reliance on oil following the oil shocks of the 1970s were laudable and effective—the world is now watching to see if Japan can bounce back from Fukushima in a similar manner.

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# Modern Expeditionary Warfare<sup>1</sup>

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## Introduction

Expeditionary warfare is a traditional juxtaposition to territorial defence strategies—or a method of invasion—and, as such, has been a consistent feature of war. However, its most modern concepts and ideas can be linked to the resurgence of doctrinal thinking that occurred following the conclusion of the Cold War.

Against a backdrop of increasing levels of disorder, expeditionary concepts and ideas have been renewed or developed, most notably those that consider expeditionary warfare in an operational-level context.<sup>2</sup> Driven by the notion that it is better to face adversaries abroad than in one's own territory, expeditionary warfare is seen by many militaries as a manner by which sea, air and land capabilities can be employed to address the challenges of contemporary strategic conditions.

The proliferation of concepts and ideas that define modern expeditionary warfare goes beyond the production of operational concepts addressing new challenges. In recent years, its key concepts have been manifested, often dogmatically, as fundamental building blocks of military doctrine. In his seminal work, *Seapower: a guide to the twenty-first century*, acclaimed theorist Geoffrey Till has sought to narrow this broad topic by refining expeditionary warfare to specifics that reflect the requirements of a modern age in war.<sup>3</sup> However, attempts such as this have not finalised the debate as to whether the modern concepts and ideas regarding expeditionary warfare are unique to the post-Cold War environment or are merely pale reflections of the enduring requirements of militaries performing their expected duties.

This article contends that the post-Cold War concepts and ideas of expeditionary warfare represent a logical adaptation of historical theories for the purpose of positioning military forces for conflict in the modern strategic environment. It will firstly examine these strategic circumstances so as to emphasise why expeditionary warfare has become particularly relevant. It will then address the extent to which this strategic environment has influenced expeditionary concepts and ideas, through the analysis of several key concepts and by addressing countervailing arguments. It will conclude that military and academic thinkers have successfully adapted historical precepts on expeditionary warfare to the extent that they now better reflect the needs of strategy in the post-Cold War age, although the subject is one that clearly warrants further, ongoing deliberation.

## The new anarchy

Since the end of the Cold War, expeditionary warfare has been the subject of much attention by Western militaries. For the ADF, expeditionary concepts have featured in force structure, strategic policy and a range of doctrine, including the Future Joint Operational Concept (FJOC).<sup>4</sup> Without referring to expeditionary warfare directly, FJOC posits joint operations being conducted by highly mobile and ready forces to meet strategic objectives throughout Australia's immediate region.<sup>5</sup>

This doctrine is an indicator of a wider post-Cold War trend in which conspicuously expeditionary ideas have been embraced by militaries around the world. However, because of the vague and confusing mixture of ideas contained within modern doctrine, expeditionary warfare has been a difficult topic for militaries to agree on.<sup>6</sup> It is thus challenging to determine whether the modern ideas of expeditionary warfare are unique to the post-Cold War era or offer anything of value to militaries at all.

Till's attempt to reduce this 'wooliness' about expeditionary warfare is perhaps the most highly regarded effort to explain why its modern concepts must be different to other historical interpretations.<sup>7</sup> His observation that post-Cold War expeditions tend to be operational-level campaigns of short duration, limited aim, self-contained, with deployments to distant urban-littoral environments by typically Western forces, and against varied opponents in a highly-politicised environment, supports the notion that modern expeditionary concepts must, and do, address the unique conditions of modern war.<sup>8</sup>

Such a vision can be contrasted to more aged concepts of expeditionary warfare that embraced large-style and usually amphibious operations in the context of general war. Till acknowledges that his definitions of expeditionary operations are 'highly imprecise'; yet if the general characteristics of war have changed, it could be expected that its key concepts would mirror this trend.<sup>9</sup> A general examination of historic conceptions of expeditionary warfare supports this notion, that its application to modern small wars with limited aims, and to crises, has required a different way in which expeditionary warfare must be considered.

Maritime nations such as the US and UK have had long and powerful traditions which embrace ostensibly expeditionary concepts, such as those famously produced by esteemed seapower theorists including Alfred Mahan and Julian Corbett.<sup>10</sup> However, even the attention of maritime powers to this unification of sea and land warfare has been contingent on strategic, albeit often temporary, circumstances.<sup>11</sup> The 19<sup>th</sup> century decision of the US military to abandon territorial defence in order to fight Caribbean 'banana wars' is echoed elsewhere in Australia's perennial debate concerning the merits of expeditionary warfare as a counterpoint to continental defence; the eponymous 'Creswell-Foster divide', named after the proponents of each theoretical school in early Australian strategic thought.<sup>12</sup>

Expeditionary warfare as strategy therefore exists in perpetual flux; in one era of war, an expedition could mean short-term conflicts or punitive campaigns such as the British expedition to Abyssinia in 1868; 50 years later its ideas could be adapted to suit total war in Europe and around the globe; and later still, where it was believed there was no utility for it at all, its ideas could simply languish.

Irrespective of the actual requirement to conduct expeditionary operations, attention to such activities deteriorated for much, if not all, of the Cold War. Post-Second World War decolonisation processes, and the manifestation of rivalries in the Third World, provided compelling reasons for Western nations to require expeditionary strategies during this period.<sup>13</sup> Australia's deployment of military forces in a range of conflicts including the Korean War, *Konfrontasi* with Indonesia in Malaya, and the Vietnam War highlights that expeditionary warfare certainly had a place during the Cold War era.<sup>14</sup> For other nations, the Cold War was replete with short-notice crises necessitating expeditionary responses, ranging from the Suez Crisis in 1956 to the US invasion of Grenada in 1983.

Yet while these Cold War expeditions may have been executed in a similar fashion to those experienced after the collapse of the Soviet Union, expeditionary warfare had a virtual 'second-class status' in terms of doctrine and intellectual understanding.<sup>15</sup> As typified in the annual NATO 'Reforger' exercises conducted in Western Europe—where NATO standing forces were reinforced at short notice largely as a demonstration to the Soviet Union—expeditionary ideas were manifested in plans for the forward positioning of large forces rather than developing the ways in which small, rapid and discrete campaigns could be conducted.<sup>16</sup>

This marginalisation of expeditionary warfare has dramatically concluded with the neutralisation of the Soviet threat. There has since been a considerable change in focus from the risk of a great power confrontation to engaging with weak and failed states throughout the world, initially under the guise of peacekeeping and humanitarian intervention, and later under the rubric of the 'War on Terror'.<sup>17</sup> In their foundation doctrine regarding expeditionary warfare, the US Marine Corps described the post-Cold War period as the 'new anarchy', characterised by 'widespread uncertainty, rapid change and turmoil'.<sup>18</sup> With the threat of large scale interstate warfare diminished, war became confined to the margins of the international system, reduced in intensity and largely unconventional in nature.<sup>19</sup>

In this environment, the US and its allies have found themselves embroiled in a flood of peace support operations, humanitarian interventions and security operations.<sup>20</sup> With an ending to the stagnancy in strategic manoeuvre which typified the Cold War, militaries have changed their focus to understanding and exploiting expeditionary warfare to engage their adversaries.<sup>21</sup>

Australian theorist Mike Evans regards this era as the 'end of geography', an idiom implying that the traditional forms of geopolitics which discouraged strategic manoeuvre have been made redundant.<sup>22</sup> Expeditionary warfare has been eminently suited to this condition. Nations and other actors now exist in a global environment of enhanced freedom of action and, in this atmosphere, expeditionary activities offer government a seemingly low-risk course of action. Having virtually unchallenged supremacy over the seas and air, the US and its allies, including Australia, have been able to respond to threats abroad with little fear of hostile intervention.<sup>23</sup>

However, this benefit has been extended to potential adversaries; in this new paradigm, highly lethal asymmetric threats, often from non-state actors, can emerge from a great distance, with little concern for national borders or the presence of conventional military forces. The 'War on Terror' which began in 2001 has typified the challenges of this period, demonstrating that a terrorist threat from the fringe could strike at the heartland of the world's pre-eminent power. The response to counter such threats has been to focus military forces abroad, and to engage those threats where they emerge through swift and decisive action.

Uncertainty as to the nature of threats has encouraged militaries to prepare for a variety of contingencies and crises, and to acquire the capability to respond quickly to complex scenarios. Modern warfare exhibits a 'hybrid' or 'compound' nature, reflecting that small-scale stabilisation, counter-terrorism, counter-crime and peacekeeping operations can exist alongside more conventional operations.<sup>24</sup>

Military deployments have become increasingly 'short-notice' in responding to complex and highly politicised situations, and require the speedy formation of military coalitions from among willing governments. Such influences on military campaigning have fundamentally affected the way in which expeditionary warfare is conceptualised and given purpose in

addressing the challenges of the contemporary strategic environment. As Till reminds us, fighting these modern small wars—often ‘campaigns of choice’—can be considered an art in itself.<sup>25</sup>

## Traversing the new anarchy

This ‘new anarchy’ has given good reason for militaries to shift their focus to expeditionary warfare, irrespective of whether they revitalised historical ideas or developed a more modern approach.<sup>26</sup> However, it was in the context of developing operational-level warfare in the 1980s that the US military addressed expeditionary warfare with unprecedented cogency. Expeditionary operations were one of many operational concepts to emerge in the post-Cold War era, including airpower, peace support and counter-terrorism operations, each with their own doctrinal language, logic and method of application.<sup>27</sup>

In being developed as a prescriptive concept, modern expeditionary operations evolved into a discrete component of a broader expeditionary strategy, addressing the specific trends identified in Till’s writings on post-Cold War expeditionary operations.<sup>28</sup> Although many historical ideas concerning expeditionary warfare were undoubtedly inherited in the process—perhaps even to the point military thinkers have simply rebadged the most useful historical concepts with new terminology—there is reason to suggest that modern expeditionary ideas do reflect a contemporary and inherently more useful approach.

From the basis of an unmatched tradition in amphibious manoeuvre, the US Marine Corps was the first to raise expeditionary operations from a banal strategic term to a workable operational-level concept, purposed for post-Cold War challenges.<sup>29</sup> As such, its doctrine of ‘Operational Manoeuvre from the Sea’ (OMFTS) has become emblematic of the concepts and ideas of modern expeditionary warfare.<sup>30</sup> OMFTS saw the sea as an avenue for manoeuvring against an operational-level objective which existed within the range of military operations from ‘major theatre war’ to ‘military operations other than war’.<sup>31</sup>

While conceptually similar to amphibious concepts that came before it, OMFTS was an idea for this new era, a concept that embraced high-readiness, mission-specific and variable forces, capable of long-distance sustainment in operations far removed from own territory.<sup>32</sup> This approach reflected the requirements of the witnessed strategic conditions, akin to those experienced over 100 years before during times of maritime conflict against the Spanish or in the Caribbean, rather than the style of expeditionary warfare conducted by the US military for most of the 20<sup>th</sup> century.<sup>33</sup>

Most modern interpretations of expeditionary warfare have since reflected the US Marine Corps’ approach, embracing concepts that espouse small yet highly lethal forces, deployments across long distances and into combat, before effectively and quickly achieving a limited objective.<sup>34</sup> Such concepts have invariably become dogmatic philosophies that espouse the requirement to maintain a mindset of readiness.<sup>35</sup> The rapid adoption of ‘expeditionary’ ideals across all Services of the US military over the last two decades, of mounting and sustaining off-shore deployments, attest to the dramatic way in which expeditionary warfare has been redefined to suit forces arguably incapable of practising expeditionary warfare as it was historically conceived.

In the 1990s, the US Air Force developed its own framework, the 'Expeditionary Aerospace Force' while, during 2005, the US Navy floated the concept of having an 'Expeditionary Command' to respond to the requirements of the 'War on Terror'-focused national security strategy.<sup>36</sup> Expeditionary warfare is now a powerful meme, capturing the shift in attention of the US military from now out-dated Cold War concepts to those relevant in the post-Cold War era.

The shift in US focus has been cause for allied militaries to address expeditionary operations as a top priority, although some have simply adapted existing traditions to suit the contemporary environment.<sup>37</sup> For example, the 1999 release of the Australian Army's capstone document, *LWD-1 Fundamentals of Land Warfare*, highlighted the importance of having a more proactive, and arguably more expeditionary, approach yet did not offer anything particularly unique or revolutionary with regards to outlining this requirement.<sup>38</sup> For others, the shifting focus to expeditionary warfare has necessitated a complete revision of existing doctrine. This is evident in NATO's adoption of an expeditionary posture—including the formation of a 'Rapid Reaction Force', so as to address several failings identified during the 1999 Kosovo campaign—adjusting to a type of warfare that was far removed from that which the organisation traditionally exercised and was configured for.<sup>39</sup>

Nevertheless, the impressive spread of expeditionary ideas has not occurred without some criticism of the potency of its concepts. The idea of the expeditionary operation has been tarnished by its connection to a range of 'buzzwords' and jargon, over-complicated concepts and its careless adaptation by forces that could not engage in expeditionary operations as was conceived by the US Marine Corps.<sup>40</sup> Furthermore, the use of the term 'expeditionary' is argued to have been mercilessly exploited by forces to justify expenditure in times in which defence spending has reduced consistently since the conclusion of the Cold War.<sup>41</sup>

Australian writer Alan Stephens regards the propensity of the Australian Army to promote expeditionary operations as emblematic of a 'self-serving preference', expounding its expeditionary attributes to attract increasingly limited resources.<sup>42</sup> Noting that Western defence budgets continue to be reduced, along with the scale of expeditionary forces, it seems that this argument is somewhat flawed. Nonetheless, these arguments do give reason for modern ideas regarding expeditionary warfare to be treated with some scepticism.

The second set of criticisms of post-Cold War expeditionary operations reflects doubt concerning the need for, and likely success of, expeditionary operations in the modern sense of the term.<sup>43</sup> The ongoing conflicts in Iraq and Afghanistan are powerful reminders that expeditions are seldom rapid and remain remarkably difficult—so much so that, in the future, expeditionary powers may be more reluctant to engage in them. Such deployments typify an enduring characteristic of expeditionary warfare, a propensity for such operations to degenerate into prolonged and unpopular military occupations or to evolve into other forms of warfare.<sup>44</sup> Applying such logic, it could be argued that modern ideas of expeditionary operations tend to purport something unachievable in actuality; a revolutionary form of combat preordained to achieve success, in order to satisfy short-term strategic requirements.

These two sets of opinions suggest that the modern concepts and ideas of expeditionary warfare fill the void with nothing more than a null solution. Yet such arguments tend to forget that irrespective of whether the modern ideas of expeditionary warfare are a unique phenomenon, they provide a framework by which militaries can be postured in a manner reflective of the

contemporary strategic environment.<sup>45</sup> Without adapting expeditionary warfare to the point where its concepts reflect the type of small wars and crises that modern Western militaries now generally face, the original concepts and ideas of expeditionary warfare would offer little and risk being discarded.

The way in which its ideas have been voraciously embraced by such militaries suggests the opposite. Despite the often fair criticism directed at modern expeditionary concepts, such ideas remain important in providing militaries with the context by which their doctrinal choices can be made. Provided the strategic circumstances of the present age remain consistent, there is no reason why the post-Cold War ideas and concepts of expeditionary warfare, which envision small force operations against varied opponents, will evaporate into obscurity.

Yet the unfolding strategic environment does give reason to question the permanency and indeed relevance of the contemporary fascination in expeditionary operations by Western militaries.<sup>46</sup> If the US strategic dominance declines relative to rising powers such as China, its strategic freedom of action is likely to similarly decline, conspiring to limit the ability of it—and the military forces of its allies—to execute effective expeditionary operations. Concern for addressing the challenges of anti-access, area-denial weaponry is already having a considerable effect on US military posture, with new concepts such as ‘AirSea Battle’ reinvigorating theatre warfare, arguably at the expense of modern forms of expeditionary operations.<sup>47</sup>

With the US still seeking to retain its pre-eminent position as a world superpower, and with increasing budgetary pressure, in a ‘strategic reset’ it is conceivable that the way expeditionary warfare is conducted in the future will be very different to the present.<sup>48</sup> Offensively-oriented expeditionary forces could once again be relegated to being a symbol of force posture, prestige and coercive influence in peace—as they were during the Cold War—rather than as a realistic tool for projecting power.<sup>49</sup> So it may seem that in moving into a possibly ‘post-expeditionary’ era, strategic circumstances will once again influence how expeditionary warfare’s core ideas will be expressed. It is even possible that the question will be asked as to whether expeditionary warfare, and post-Cold War style expeditionary operations, will be a viable operational option in the future at all.

## Conclusion

The concepts and ideas of any form of warfare are often adapted or invented to suit strategic necessities and, in the case of modern expeditionary warfare, the correlation between the two is quite clear. While the post-Cold War strategic environment has certainly given reason for militaries to focus their attention on expeditionary warfare, it has also given them cause to adapt historical concepts and introduce new ideas to suit the unique features of modern wars and crises.

In the main, this is a logical, mature and indeed expected way for such militaries to act. Had the Cold War continued, it is likely that expeditionary warfare would have remained an underinvested operational concept—and with good reason. Instead, the turmoil of the modern era, characterised by transnational conflicts and the influence of a variety of state and non-state actors, has ensured the opposite. From amphibious roots, expeditionary warfare has been adapted to suit militaries and coalition organisations in this tumultuous time.

However, discussion and debate has ensued concerning expeditionary operations, not only because of its vagueness and inconsistent application, but also due to the difficulties experienced by Western militaries in executing expeditionary operations in recent conflicts. Modern deployments suggest that expeditionary operations offer little more than a new name on an essentially old concept of fighting abroad, despite recent intellectual attempts to differentiate it as a unique form of warfare.

While there may be an element of truth to this argument, it is clear that the present-day focus on expeditionary warfare comes from a strategic requirement to do so and that its modern concepts and ideas, despite their 'wooliness', have been justifiably influenced to suit the small wars and crises facing modern Western militaries. However, the permanency of these ideas may come into question as recent strategic trends change. With a new global balance emerging, there is reason to believe that the world could be moving to what Till describes as a 'post-expeditionary age' and, with it, it is understandable that the concepts and ideas of expeditionary warfare will be submitted to another crucial yet necessary review.

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## NOTES

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# Refocusing the Australia-PNG Relationship

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## Introduction

Australia's relationship with PNG, its nearest neighbour, is a long and varied one. Formally, it stretches back to 1906 when the Commonwealth of Australia assumed responsibility for the Territory of Papua, with Australia subsequently given control of the former German territory of New Guinea by the League of Nations in 1920. Notable later events were their shared struggle against Japan in World War 2, and PNG's independence in 1975.

With this long shared history, intertwined economic interests and longstanding Defence cooperation and people-to-people ties, relations between Australia and PNG should be cordial, strong and enduring. In reality, bilateral relations are not necessarily what they could be.

Despite the undoubted good intentions that underpin Australia's view of PNG, there has been a tendency for successive Australian Governments to lecture PNG—using so-called 'megaphone diplomacy'—whenever there is disagreement.<sup>1</sup> While this may be well-intentioned, particularly when viewed through the lens of a former colonial relationship, it is understandably often seen as paternalistic by those living to the immediate north of the Torres Strait.<sup>2</sup>

Another factor is that in recent years, Australia's international policy and security attention has been focused much further afield. In the decade following the September 2001 attacks, Australia has been closely involved in operations in Iraq and Afghanistan, and this has absorbed much of the ADF's attention. While the ADF has certainly not been entirely fixated on Operations CATALYST and SLIPPER,<sup>3</sup> there is little doubt that in Australia's 'near neighbourhood',<sup>4</sup> much of the Southwest Pacific—with the obvious exception of the Solomon Islands—has been relegated to the strategic back seat.

With ADF operations in Afghanistan set to wind down in 2014 or earlier, it is timely to re-focus on Australia's immediate neighbourhood and, particularly, Australia's relationship with PNG. This article will address why such a renewed focus is important and what effective means of interaction are available to pursue Australia's interests. It will particularly examine how the ADF can play a robust, enduring and creative role in maintaining and furthering Australia's national interests, as part of a whole-of-government effort.

## Why a renewed focus?

Although Australia's administration of PNG ceased at independence, its close interest in the new nation did not. Since 1975, Australian aid to PNG has been significant, totalling almost A\$15 billion across a range of programs, with A\$491.7 million allocated for 2012/13.<sup>5</sup>

Furthermore, many Australian companies have significant commercial interests in PNG, particularly in the resources sector, with total bilateral trade worth over A\$5.6 billion per year.<sup>6</sup> Beyond this, many PNG citizens come to Australia to work or study, while—at any one time—there are an estimated 10,000 Australians living and working in PNG.<sup>7</sup> Importantly,

both nations have Westminster-style parliamentary democracies, providing a shared political heritage, as well as strong military history links, not least relating to allied operations in PNG during World War 2.

In the contemporary context, Australia's 2009 Defence White Paper articulated a 'secure immediate neighbourhood' as one of its strategic interests, ranking only behind a 'secure Australia' in degree of importance.<sup>8</sup> This will likely be reconfirmed in the 2013 Defence White Paper, as it was in the recently-released White Paper titled *Australia in the Asian Century*, which asserted in its executive summary that 'Australia's future is irrevocably tied to the stability and sustainable security of our diverse region'.<sup>9</sup>

While there are many facets to the security of Australia's near neighbourhood, two in particular should draw the ADF's attention, not only by their significance but, importantly, because the ADF can actually do something about them. The first is preventing or mitigating the ability of any regional state to conduct sustained military operations in Australia's approaches. The second, obviously closely related to the first, is helping to ensure the stability, prosperity and cohesion of Australia's neighbours.

While it could be argued that this is largely self evident, the theme was usefully restated in an April 2012 speech by the Parliamentary Secretary for Defence, Senator David Feeney, titled 'Papua New Guinea: Securing a Prosperous Future Domestic and Regional Security'.<sup>10</sup> In that speech, Senator Feeney also asserted that 'stable, prosperous and cohesive near neighbours are less vulnerable to external influences that might be inimical to Australia's interests'.<sup>11</sup> Again, this is unexceptional. However, it reinforces the obvious reality that stable and cohesive near-neighbours, which are prosperous and view Australia in friendly terms, are less likely to be sympathetic to third parties seeking opportunities to establish or increase their military presence, including naval or other military basing rights.<sup>12</sup>

Some might argue that prospect seems unlikely in our immediate neighbourhood. However, China's reported plans to secure naval basing rights in the Seychelles, as well as possible future military basing in Sri Lanka and Pakistan are reminders that the possibility cannot be discounted.<sup>13</sup> Others will recall that in 1997, China established a satellite tracking station in Kiribati that was allegedly used to spy on the US Army's missile range in the Marshall Islands, a key centre of operations for the development of the US ballistic missile defence system and that, more broadly, China has—for a number of years—been bolstering its influence in the Southwest Pacific, including through increased foreign aid activities.<sup>14</sup>

Beyond conventional security concerns are a range of non-traditional threats, such as people-, narcotics- and illegal weapons-smuggling.<sup>15</sup> It is widely recognised that stable, prosperous and well-governed states are far less conducive to the activities of international criminals than those that are not.<sup>16</sup> Given PNG's close proximity to Australia, and the potential (and actual) use of the Torres Strait as a conduit for criminal activities,<sup>17</sup> it is clearly in Australia's interests to support the development within its immediate neighbourhood of an environment that deters the growth and sustainability of trans-national crime.

## **What can we do?**

In assessing what can be done to contribute to the stability, prosperity and cohesion of our nearest neighbour, it is axiomatic that the approach requires a whole-of-government strategy

and effort. Particularly within the current budgetary environment, whole-of-government solutions—and close inter-departmental partnerships—are likely to be the most cost effective, both in terms of a unified, coordinated effort but also by facilitating some degree of cost sharing between budgets.

The lead, in our relations with PNG, has traditionally been the preserve of the Australian Agency for International Development (AusAID) and its predecessor agencies, which would seem both logical and appropriate. However, the ADF—especially with its long tradition of military-to-military links—can play a particularly important role as part of a whole-of-government program in three key ‘non-kinetic’ areas. These are strengthening the institutions of state, aid to the civil community, and humanitarian assistance and disaster relief contingencies.

### *Strengthening the institutions of state*

One potential (and continuing) role for the ADF would be increased ‘institutional engagement’, aimed at further strengthening the key institutions of state, namely the PNG Defence Force (PNGDF) and the Royal Papua New Guinea Constabulary (RPNGC). The aim would be to assist these institutions to become more effective policy instruments for the PNG Government, primarily by increasing their level of training and professional mastery. For the PNGDF, this would improve its capability to protect national sovereignty and safeguard the country’s rich natural resources, including its offshore assets.

This form of support could enhance PNG’s ability to counter illegal trans-national and intrastate activities, such as drug-smuggling and gun-running.<sup>18</sup> Indeed, reducing the supply of illegal firearms, notably to parts of the Highlands, would assist in reducing the frequency and effects of violent crime, tribal fighting and public disorder, and help the RPNGC—and therefore the PNG Government—strengthen its authority in these areas. Improved law and order would also assist in the delivery of government services, such as health and education, as well as the conduct of elections.

A plausible flow-on could be that improved law and order would increase investment confidence in the resource-rich Highlands, including for Australian-owned resource companies. The overall effect would be improvements in the PNG economy, thereby increasing the prosperity, cohesion and stability of our nearest neighbour, which would clearly be beneficial not just to PNG but also to Australia as well, given their economic inter-dependence.

Within the ADF, Army already undertakes a significant number of activities towards this outcome. The Exercise OLGETA WARRIOR construct includes military-to-military activities with the PNGDF, such as Exercise WANTOK WARRIOR, aimed at building interoperability, as well as Exercise PUK PUK, which involves limited joint infrastructure building activities and maintenance, and also addresses engineering interoperability.<sup>19</sup>

The Australian Federal Police’s ‘Enhanced Cooperation Program’ similarly supports the RPNGC and has been reinvigorated in recent years. In announcing a series of new initiatives in October 2011, Prime Minister Gillard said ‘we have been working with Papua New Guinea to develop the next phase of the PNG-Australia Policing Partnership’.<sup>20</sup> She outlined that Australia would provide a range of training and support services to improve the capabilities of the RPNGC, to include the placement of Australian Federal Police officers into in-line positions in senior, strategic roles.

A number of these activities are well established, and provide important mechanisms for training and helping build professionalism and capability. However, there is more that could and should be done, more regularly, more comprehensively and ideally on a broader ADF-wide basis.

### ***Aid to the civil community***

The second potential area for improved cooperation is in ‘nation building’, through aid to the civil community. Helping to train the PNGDF and RPNGC has minimal impact on Australia’s image in the wider PNG community or, indeed, that of the PNG Government. Similarly, while Australia’s foreign aid is greatly welcomed in government and professional development circles,<sup>21</sup> it remains questionable how widely this is known in the general community.<sup>22</sup> One particular reason is that around 85 per cent of the population lives in remote, rural subsistence areas with irregular contact with government representatives and agencies, particularly in areas such as health and education, and with little exposure to the media.

An improvement in public sentiment towards Australia, at local community level, backed by an ongoing, substantial aid program, could be expected over time to translate into more favourable government-to-government relations. The obvious question is how could the ADF move beyond its current engagement programs to reach directly into the wider PNG community, not least in a constrained budgetary environment?

One option would be the ‘population support’ approach, which could be achieved within a joint and interagency construct, at relatively little expense, and using a tested model. For example, some two years ago, AusAID (in conjunction with Australian Defence staff in PNG) organised a series of joint health patrols in the Central Province of PNG, including into areas where the inaccessibility of the terrain necessitated movement by small boat or foot.

One of the most notable patrols—consisting of PNGDF, AusAID and ADF representatives—was in the Abau District (and the subject of a later documentary).<sup>23</sup> Over a two-week period, it delivered medical support and supplies to a number of villages, treating more than 200 people—some of whom had not seen medical personnel for many years—for a number of significant medical conditions, including tuberculosis, malaria, dysentery, pneumonia and various skin diseases.

This example was lauded in the Australian media<sup>24</sup> and clearly left the supported population with positive perceptions not only of Australia but also the PNG Government and PNGDF. This last point is important, because a PNGDF that enjoys popular support will help build a more robust and secure PNG. Looking ahead, similar joint, interagency health patrols would seem a low cost but potentially very effective mechanism to further strengthen institutional engagement between the ADF and the PNGDF, as well as Australia and PNG more broadly.

### ***Humanitarian assistance and disaster relief contingencies***

A further cooperative possibility is in relation to humanitarian assistance and disaster relief, an area where Joint Logistics Command is already working with AusAID to explore ways in which funding within its budget might be used to facilitate joint Defence-AusAID responses.

To date, there has been a comprehensive ‘Defence Cooperation Program’, a key aspect of which has been the posting of ADF personnel to PNG in a variety of roles, encompassing areas such

as support to PNGDF operations, training and logistics.<sup>25</sup> It also has involved periodic joint exercises, such as Exercise OLGETA WARRIOR, as well as PNGDF personnel visiting Australia for individual and collective training.<sup>26</sup>

The individual training has included initial officer training at the Royal Military College Duntroon, through to attendance at the Australian Command and Staff College and Centre for Defence and Strategic Studies at the Australian Defence College. The collective training has included Exercise WANTOK WARRIOR, whereby a PNGDF infantry company ( $\pm 100$  personnel) has been attached to Army's 3<sup>rd</sup> Brigade in Townsville for a period of around one month each year, providing an opportunity to improve its level of training by having access to the operational experience resident within Army's 3<sup>rd</sup> Brigade, as well as exposure to facilities and equipment not available in PNG.

From the ADF's perspective, this reasonably extended period of training allows it to enhance its interoperability with the PNGDF, build inter-personal relations and facilitate two-way skills transfers, including what PNGDF soldiers are able to impart about operating in some of the most difficult terrain in our region. The fruits of these exercises can be seen in Operation ANODE, the 'Regional Assistance Mission to the Solomon Islands' (RAMSI), where a platoon of PNGDF soldiers has been deployed as part of an ADF-led multinational company over a number of years.<sup>27</sup>

Given the level of joint ADF-PNGDF interoperability already established and fostered over a number of years, particularly in training, peace-keeping and nation-building constructs, an option might be to consider a more permanent concept, such as a standing joint ADF-PNGDF unit with a primary role of responding to regional humanitarian assistance and disaster relief contingencies in the Southwest Pacific.<sup>28</sup>

Such a 'Pacific Battalion' could provide an enhanced 'successor' to RAMSI once Operation ANODE concludes. Without speculating too far on what it might look like, an obvious option would be to have a PNGDF infantry company attached to one of the ADF's Townsville-based infantry battalions to assist in the provision of a bilateral, regional response to any future Southwest Pacific humanitarian assistance/ disaster relief events, perhaps for six months each year (coinciding with the cyclone season). Clearly, the use of this joint force would need to be agreed by both governments on a case-by-case basis but feasibly could be done under the umbrella of the Pacific Islands Forum, not least to assuage any regional concerns as to Australia's motives.<sup>29</sup>

## **Aid funding**

Australia cannot, and probably should not, attempt to compete with the amount of aid funding being spread across the Pacific by China and some other nations, particularly in countries such as Fiji, whose current government is already predisposed to look to nations other than Australia for assistance.<sup>30</sup>

Indeed, matching these soft loans and opaque, untied aid that collectively total hundreds of millions of dollars would be implausible in Australia's current, constrained budgetary environment—which has included Australia deferring its commitment to meet the UN's 'millennium goal' of 0.5 per cent of gross national income being allocated to foreign aid.<sup>31</sup> Hence, innovative engagement strategies, such as those proposed in this article, are needed to meet this challenge.

Of course, such strategies are not without financial cost, although initiatives such as joint health patrols would hardly be noticed within the context of the current AS\$491 million annual foreign aid budget. But by thoughtfully building on the existing strong international engagement foundations, there is considerable potential for Australia to go a long way towards matching the effect and goodwill generated by far larger amounts of raw monetary aid provided by other countries.

Importantly, the foundations have been laid for this to occur and, on a positive note, an increase in funding for Defence cooperation with PNG was announced as part of the Federal budget, increasing the commitment from A\$12 million to A\$21 million in 2012/13.<sup>32</sup> Such relatively low-cost measures are effective ways to exercise ‘soft power’ within the region, as well as enabling the ADF to make a useful, ‘non-kinetic’ contribution to Australia’s security.

## Conclusion

Strengthening Australia-PNG relations is not a ‘silver bullet’ in terms of advancing Australia’s interests in its near neighbourhood. Realistically, it may have only limited impact in addressing internal issues in PNG that stem from underdeveloped institutions and structures. Nevertheless, it would be an incremental step towards both these outcomes, as well as providing a sound foundation for further, innovative approaches.

More broadly, by refocusing on the level and scope of Australia’s engagement with PNG, we may help ensure that external actors are not drawn further into the region. We need to ensure that Australia does not cede the regional field to possible strategic rivals simply by being outspent in aid. Australia is already well enmeshed in the region’s multilateral political and security architecture—and strong bilateral relations serve to enhance this.

The ADF, as part of a whole-of-government effort, has a very clear role to play in this endeavour. Thinking slightly outside and beyond the historical and current engagement paradigm will serve to make historically strong military-to-military ties stronger still, to the benefit of both Australia and PNG.

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## NOTES

1. Comments by the newly-appointed Australian Foreign Minister on 14 March 2012, threatening sanctions and action by the international community should PNG defer elections scheduled for June 2012, would have been seen by some in PNG as the latest manifestation of this tendency. Senator Carr later modified his comments, such as reported in 'PNG comment was a mistake, says Australian minister', *Radio Australia*, 22 March 2012: see <<http://www.radioaustralia.net.au/pacific/2012-03-22/png-comment-was-a-mistake-says-australian-minister/491514>> accessed 2 August 2012.
2. This is evidenced by public statements by Ministers, as well as the widespread reactions within the social media of PNG on such occasions. These include a number of weblogs, as well as within Facebook groups, such as *Sharp Talk* and *Talking Edge*.
3. Operation CATALYST was the ADF's contribution to the US-led multinational effort to develop a secure and stable environment in Iraq and assist national recovery programs; Operation SLIPPER is Australia's military contribution to the international campaign against terrorism and maritime security in the Middle East area of operations and countering piracy in the Gulf of Aden.
4. The 2009 Defence White Paper defined Australia's immediate neighbourhood as the area it shares with Indonesia, Papua New Guinea, East Timor, New Zealand and the South Pacific island states: see Australian Government, *Defending Australia in the Asia Pacific Century: Force 2030*, Department of Defence: Canberra, 2009, see <[http://www.defence.gov.au/whitepaper/docs/defence\\_white\\_paper\\_2009.pdf](http://www.defence.gov.au/whitepaper/docs/defence_white_paper_2009.pdf)> accessed 2 August 2012.
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6. Department of Foreign Affairs and Trade website, see <<http://www.dfat.gov.au/geo/fs/png.pdf>>, accessed 22 March 2012.
7. Department of Foreign Affairs and Trade website.
8. Australian Government, *Defending Australia in the Asia Pacific Century*, p42.
9. Australian Government, *Australia in the Asian Century*, Australian Government: Canberra, 2012, p. 4: see <<http://asiancentury.dpmc.gov.au/white-paper/executive-summary>> accessed 31 December 2012.
10. Senator David Feeney, Parliamentary Secretary for Defence, 'Papua New Guinea: Securing a Prosperous Future Domestic and Regional Security', address at Deakin University, 13 April 2012.
11. Feeney, 'Papua New Guinea', p. 42.
12. See, for example, F. Hanson and M. Fifita, *China in the Pacific: the new banker in town*, Lowy Institute: Sydney, April 2011.
13. See, for example, Saibal Dasgupta, 'China military base in the Indian Ocean?', *The Times of India*, 13 December 2011: see <[http://articles.timesofindia.indiatimes.com/2011-12-13/china/30511052\\_1\\_seychelles-drone-base-china](http://articles.timesofindia.indiatimes.com/2011-12-13/china/30511052_1_seychelles-drone-base-china)> accessed 1 August 2012. Also Amir Mir, 'China seeks military bases in Pakistan', *Asia Times* on-line, 26 October 2011: see <[http://www.atimes.com/atimes/South\\_Asia/MJ26Df03.html](http://www.atimes.com/atimes/South_Asia/MJ26Df03.html)> accessed 1 August 2012.
14. See, for example, R. Shie, 'Rising Chinese Influence in the South Pacific: Beijing's "Island Fever"', *Asia Survey*, Vol. 47, No. 2, March/April 2007, p. 322.
15. R. Ullman, 'Redefining Security', *International Security*, Vol. 8, No.1, Summer 1983, pp. 129-53. While Ullman did not coin the term 'New Security Agenda', his seminal work in the early 1980s helped lay the foundation for the consideration of security outside the traditional, conventional construct.



16. C. Ungerer, 'A New Agenda for National Security', Special Report, Australian Strategic Policy Institute: Canberra, April 2008, p. 4.
17. This is not only an issue recognised recently and by Australia. See PNG Government, *1999 White Paper: service to others*, PNG Defence Force: Port Moresby, 1999, p. 35.
18. P. Alpers, *Gun-running in Papua New Guinea: from Arrows to Assault Weapons in the Southern Highlands*, Small Arms Survey: Geneva, June 2005, p. 64.
19. Commonwealth of Australia, *Defence Annual Report 2006-07*, Department of Defence: Canberra, 2007, p. 468: see <[http://www.defence.gov.au/budget/06-07/dar/2006-2007\\_Defence\\_dar\\_online05.pdf](http://www.defence.gov.au/budget/06-07/dar/2006-2007_Defence_dar_online05.pdf)> accessed 15 April 2012> accessed 15 June 2012.
20. Prime Minister Julia Gillard, 'A new chapter in Australia-PNG relations', press release, 12 October 2011: see <<http://www.pm.gov.au/press-office/new-chapter-australia-png-relations>> accessed 2 August 2012.
21. Despite this, there is certainly a degree of anti-Australian sentiment amongst younger, educated members of the PNG population, evidenced regularly on PNG social media sites and fora.
22. This issue was highlighted in an address by the Shadow Minister for Foreign Affairs, the Hon Julie Bishop MP, 'Australian Aid, The Pacific and PNG', at the Australian National University on 20 June 2012: see <[http://pacificinstitute.anu.edu.au/events/seminar\\_details.php?searchterm=loc\\_722001979&semyear=2012](http://pacificinstitute.anu.edu.au/events/seminar_details.php?searchterm=loc_722001979&semyear=2012)> accessed 2 August 2012.
23. This particular patrol was the subject of the privately-produced documentary by Colin Wiltshire, formerly an AusAID representative in PNG, titled 'Silent Treatment – A Health Patrol to Deigam Village'.
24. For example I. Gridneff, 'Aussie Aid Workers Get Boots Muddy in PNG', *The Canberra Times*, 3 December 2010: see <[https://asopa.typepad.com/asopa\\_people/2010/12/aussie-aid-workers-get-boots-muddy-in-png.html](https://asopa.typepad.com/asopa_people/2010/12/aussie-aid-workers-get-boots-muddy-in-png.html)> accessed 22 April 2012.
25. For instance, by assisting with the operation of forward operating bases at Vanimo in Sandaun Province and Kiunga in Western Province.
26. See, for example, initiatives as outlined on the Australian High Commission - Papua New Guinea's website, <<http://www.png.embassy.gov.au/pmsb/MR090824.html>> accessed 22 March 2012.
27. Regional Assistance Mission to Solomon Islands, *RAMSI Experience Invaluable for PNG Defence Force*, 26 June 2009: see <<http://www.ramsi.org/media/news/ramsi-experience-invaluable-for-png-defence-force.html>> accessed 22 April 2012.
28. The author received positive support for this concept in personal discussions with Lieutenant Colonel Stanley Benny, PNGDF, currently Commanding Officer of the 1st Battalion, the Royal Pacific Islands Regiment.
29. A recent example was a statement on a Fijian Government website, which contended that '[Foreign Ministers] Rudd and McCully [are] driven by their neo-colonial ... agenda': see report by ABC Radio Australia on 11 June 2011; <<http://www.radioaustralianews.net.au/stories/201106/3241626.htm?desktop>> accessed 6 May 2012.
30. Fiji has received in excess of A\$254m in loans from China; PNG is currently (as at June 2012) in negotiations with China for a A\$3.5bn loan to refurbish the nation's road system.
31. J. Chandler, 'Cuts to Foreign Aid Could Cost 250,000 Lives', *Sydney Morning Herald*, 10 May 2012: see <<http://www.smh.com.au/business/federal-budget/cuts-to-foreign-aid-could-cost-250000-lives-20120509-1yd6f.html>> accessed 13 May 2012.
32. P. Jennings, 'Defence Priority Needs to Swing Back to our Asia-Pacific Neighbours', *The Australian*, 14 May 2012, p. 12.

# Operating in a Degraded Information Environment<sup>1</sup>

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Nothing is more difficult, and therefore more precious, than to be able to decide.

Napoleon Bonaparte <sup>2</sup>

## Introduction

The ADF and allied militaries are growing increasingly dependent on cyberspace and space. Both are crucial to modern command and control (C<sup>2</sup>), especially the ability to collect, process and transmit information—and to achieve ‘information dominance’ (or ‘information superiority’), which provides significant force multiplication when integrated across joint military operations.<sup>3</sup>

Yet these domains are becoming increasingly vulnerable to malicious actions.<sup>4</sup> Adversaries know this and correctly perceive the wider information environment as a potential vulnerability of ‘hi-tech’ militaries. This is recognised by Australia’s most recent Defence White Paper and its counterpart US document.<sup>5</sup> Both these documents conclude that the appropriate counter is to protect and strengthen space and cyberspace capabilities. But neither seriously addresses the possibility that an adversary may negate the information advantage of Australia and its allies, nor that it may gain information dominance.<sup>6</sup>

This article argues that the ADF and allied militaries must urgently reassess their capability to operate effectively in a degraded information environment, otherwise they risk being seriously unprepared to operate effectively in future military operations.

## The threat

### *A degraded information environment*

Definitions of the ‘information environment’ understandably vary slightly between the ADF and counterpart militaries. However, it would generally be agreed that ‘it is where humans and automated systems observe, orient, decide, and act on information’, which is a fundamental element of the decision-making process.<sup>7</sup> All would similarly concede that while the environment contains physical, informational and cognitive dimensions, it is the physical (comprising C<sup>2</sup> systems, supporting infrastructure and platforms) and informational dimensions (where the information is collected, processed, stored, disseminated, displayed and protected) that are most susceptible to attack.<sup>8</sup>

It is also within the information environment that the major systems required for intelligence, surveillance and reconnaissance (ISR), precision ‘position, navigation and timing’, targeting, and communications exist. These capabilities are all essential to planning and executing modern military operations. Not surprisingly, Australia and its allies have concluded that to succeed in future conflicts, it is necessary to gain and maintain information superiority—and that the force possessing better information and using that information more rapidly and more

effectively to gain an understanding of their operating environment, including determining their problems and opportunities, will have a major advantage over their adversaries.<sup>9</sup>

Contrary to this, a 'degraded' information environment is one in which there is a reduction in the effectiveness and/or efficiency of C<sup>2</sup> systems, resulting in an impaired ability to make decisions and take action. Degradation can be brought about by the destruction, disruption or denial of information systems and their supporting architecture. This might be achieved by attacking C<sup>2</sup> platforms and infrastructure and/or information during transmission; physical attacks may include disabling ground-based transmission and receiver stations, severing communications cables, destroying or disabling satellites, or disrupting computer-based systems.<sup>10</sup>

The dominance of the US military and its major allies in conventional warfare has forced rivals and potential adversaries to find ways of negating this strength. Russia, China and, to a lesser extent, North Korea and Iran, are all developing cyber and counter-space capabilities, some at a rate faster than was predicted by most Western intelligence agencies.<sup>11</sup> China especially is developing a multi-dimensional capability to interfere with space-based assets.<sup>12</sup> Hence, future wars will likely see information-based systems targeted by a range of means, which could include kinetic strikes, electronic warfare, computer network attack and counter-space weapons. Such attacks would aim to achieve information superiority, or at least parity, in order to negate the conventional capabilities of a hi-tech adversary.

### ***Disrupted satellite systems***

The global nature of modern operations, combined with the increasing dispersion of troops within a theatre of operations, has made satellite-based systems the primary means of communicating at the strategic, operational and tactical levels. This reliance will only increase in the future, not least because of the continuing proliferation of platforms that rely on global positioning systems (GPS). So disrupted space operations, combined with or caused by a cyber-attack, have significant potential to impact all military operations.

GPS technology is invaluable for the safe and efficient movement, measurement and tracking of people, vehicles and other objects.<sup>13</sup> But navigation is only one of its military uses. Three-dimensional common operating pictures, unmanned aircraft systems, targeting, weapons delivery, ISR, battlespace awareness, and communications are all critically dependent on GPS.

Communications, in particular, have become increasingly dependent on GPS, as it provides timing and frequency synchronisation for communications and data networks, as well as encrypted data and communications transmissions.<sup>14</sup> In 2003, during the major combat phase of Operation IRAQI FREEDOM, around 85 per cent of military communications in and out of the theatre were by way of commercial communications satellites, with the Combined Air Operations Centre alone using 31 military and 27 commercial terminals.<sup>15</sup> Currently, it is estimated that over 80 per cent of US military communications travel through satellites.<sup>16</sup>

Targeting and munitions guidance systems also rely increasingly on GPS technology. During Operation DESERT STORM in 1991, only 35 GPS-guided, conventional air-launched cruise missiles were fired; in 2003, during Operation IRAQI FREEDOM, 44 per cent of all precision munitions were GPS-guided.<sup>17</sup> More broadly, the US in particular relies heavily on space sensors to provide information on adversary locations and dispositions, as well as battle damage assessment, and data on meteorological and oceanographic factors that might affect operations.<sup>18</sup>

This increased reliance has exceeded the capacity of the existing military satellite system. To meet the demand, the US Department of Defense has partnered with a range of allied military, commercial and civil systems. However, this has introduced further potential vulnerabilities.<sup>19</sup> One such vulnerability was exploited on multiple occasions in 2007 and 2008 when computer hackers, allegedly linked to the Chinese military, interfered with two US Government satellites used for climate and terrain observation through a ground station in Norway.<sup>20</sup>

Under international law, all space powers have unimpeded satellite over-flight of all other nations, as well as the freedom to manoeuvre their satellites close to another state's space assets. The US approach has been to achieve information and space dominance by fielding a greater number of more advanced technologies than its competitors.<sup>21</sup> However, it is evident that several other states are increasingly intent on developing the capability to degrade satellite-enabled systems.<sup>22</sup>

The five major disruption methods are anti-satellite (ASAT) weapons, high altitude electromagnetic pulse weapons, high-power microwave weapons, jamming and spoofing, and cyber-attacks. The world has already seen the results of some of these capabilities. For example, China proved its ASAT capabilities with the destruction of one of its own weather satellites in 2007 and by the manoeuvring of its own satellites next to one another in 2010.<sup>23</sup> The rate of Chinese advancements in ASAT technologies, including ground-based laser systems, makes it inevitable that they will possess the ability to target the mid-earth orbit, where GPS satellites are located. The ability of China to identify and track satellites is also improving—a prerequisite for conducting counter-space operations.

These abilities, combined with the space-based systems that China is currently establishing in order to become self-reliant, mean that the threat of a degraded information environment is very real.<sup>24</sup>

## **Impact on the battlefield**

The impact of degraded space systems will vary, depending on the scale and type of attack. A small-scale strike may consist of limited electronic-warfare jamming, using relatively inexpensive equipment with effective ranges up to 200 kilometres.<sup>25</sup> Such an attack could degrade GPS and communication signals within an area of operations. A large-scale attack, where both ground-based and space-based platforms are disabled or destroyed, could result in the almost total elimination of space-enabled capabilities in an area of operations. If caught unprepared, the latter scenario—while probably not achievable by any potential adversary until later this decade at the earliest—would certainly cripple most allied operations.<sup>26</sup>

The effects of disrupting GPS, by targeting satellite-enabled systems, would be felt most in the C<sup>2</sup> of allied forces in a theatre of operations. Yet US operating concepts such as network-centric warfare<sup>27</sup> and 'Enhanced Marine Air-Ground Task Force Operations'<sup>28</sup> are largely based on the assumption of assured C<sup>2</sup>. The reality, which potential adversaries clearly realise, is that these concepts may become untenable in a degraded information environment. Recent Chinese doctrine, for example, has identified information warfare as integral to achieving information dominance by targeting C<sup>2</sup> networks.<sup>29</sup> Indeed, China's emergent ability to destroy or disrupt key elements of an adversary's battle network has the potential to seriously degrade allied power-projection operations.<sup>30</sup>

To illustrate the effects of a degraded information environment on C<sup>2</sup>, it is useful to revisit the Gulf War in 1991, where a US-led coalition enveloped Iraqi forces defending the south-east of Iraq and Kuwait. Contact between the various allied forces relied largely on tactical satellite radios.<sup>31</sup> Such communications were far from perfect—often relying on a mix of radio, satellite, facsimile, email and cellular phones to transmit messages.<sup>32</sup> But they were effective, allowing for the successful C<sup>2</sup> of allied forces over a large geographic area.<sup>33</sup> But had the Iraqis been able to deny or disrupt the coalition C<sup>2</sup>, the result could have been far different.

Since 1991, satellites have assumed an even greater role in the C<sup>2</sup> function of modern militaries. Hence any disruption of space-based C<sup>2</sup> systems will significantly impact on operational capability, in particular situational awareness, planning, decision-making and communication. And without satellite-enabled systems, ‘distributed operations’—particularly involving forces operating hundreds of kilometres from their higher headquarters and/or adjacent units in terrain restricting the use of line-of-sight communications—will be almost impossible if based on current planning.

## Operating in a degraded information environment

To be able to operate effectively in a degraded information environment in which an adversary has destroyed or denied space-based C<sup>2</sup> systems, the ADF and allied militaries must plan and train accordingly. Specialist communications staff must be included as key participants in the planning process and shape appropriate courses of action.<sup>34</sup> In addition, training for operations in a degraded information environment must occur at all levels—which is already being done by China’s People’s Liberation Army.<sup>35</sup>

Providing redundancy in C<sup>2</sup> and communications systems will also reduce uncertainty and improve situational awareness. While the use and improvement of satellite and other systems must continue, older systems and technologies must not be forgotten. Detailed manual battle-tracking will be required when GPS-based tracking systems are unavailable. While this may sound simple, it requires vigilant and insightful operational staff to be accurate and useful.

Similarly, without a fully-functioning communications network, operational staff must monitor all communication traffic—not just messages sent specifically to them—in order to track and understand what is happening around them. This ‘eavesdropping’ was a successful technique employed in both World Wars and in the 1991 Gulf War. In the latter, improvisation was possible because personnel still had the necessary basic skills from an earlier era, but much of this latent capability has likely gradually eroded over the last decade.

In most modern militaries, traditional high frequency (HF) methods have ‘become replaceable technologies, relegating [such] communications to a lost “art” among communicators’.<sup>36</sup> While low-power HF frequencies are vulnerable to jamming, interference is more difficult to sustain. So planning and training for the use of HF communications as a redundant system for long-haul communications of both voice and data beyond light-of-sight should be practised.<sup>37</sup>

Counter-measures are also essential to denying information superiority to an adversary. It is expected, for example, that China will have a nearly full suite of independent space-based systems by 2020, providing it with capabilities comparable to those currently enjoyed by the US and its allies.<sup>38</sup> While the militarisation of space is an ongoing and contentious issue, it is axiomatic that the US and its allies need to develop counter-capabilities to deny an adversary the use of space-based assets.

At the tactical level, there are also a number of measures that can be undertaken to reduce the reliance on degradable communications. Firstly, commanders can physically move between their formations, directly monitoring progress and concentrating on decisive points at critical times. For example, during Operation DESERT STORM in 1991 and again in Operation IRAQI FREEDOM in 2003, the coalition's forward corps commanders successfully employed this technique, using helicopters as a highly mobile command post.<sup>39</sup>

Another technique, used by both corps headquarters in the example above,<sup>40</sup> is for the higher headquarters to establish multiple tactical command posts to facilitate the presence of key members of the headquarters staff close to the battle—in effect, creating a 'two-way directed telescope'.<sup>41</sup> The intent of these tactical command posts is not to direct the actions of subordinate formations but rather monitor and report to the commander to facilitate greater situational awareness. Also, in the event that subordinates are unable to communicate with the commander and require guidance regarding a changed situation, the staff can respond based on what they know of the current situation and the designs of the commander.

More broadly, the best way of improving the effectiveness of C<sup>2</sup> in a degraded information environment is to emphasise the philosophy of what the US Marine Corps calls 'mission command', which empowers 'subordinates exercising initiative in accord with the superior commander's intent'.<sup>42</sup> Mission command is dependent, however, on subordinates providing situational awareness to the higher commander.<sup>43</sup> Thus, mission command still heavily relies on two-way communication between commanders, their staff and their subordinates.

Moreover, in its currently-practised form, mission command can only go so far—once subordinates have achieved their initial goals, what happens next is unknown without further command guidance. That is because most operational orders and briefs omit the basis for understanding the environment and problem, such as the relationships between actors or the rationale for decisions and undesired outcomes. At a minimum, commanders must ensure their subordinates know what is required for operational and strategic success. Subordinate commanders and their key staffs must know how they and all other formations fit into the bigger plan, and they must be intimately involved in the design and planning for operations to ensure they understand the vision of their higher commander and staff.

## Conclusion

The ADF and allied militaries have acknowledged the likelihood of conducting future operations in a degraded information environment. However, they have invested limited thought and resources into developing ways to mitigate information degradation. Nevertheless, the threat is very real, including potential attacks on computer and space-based systems, which would impair significantly the ability of Australia and its allies to conduct military operations. At best, local degradation would retard tactical actions and be an annoyance. At worst, whole units could be rendered ineffective.

Australia and its allies must therefore immediately prepare to operate in a degraded information environment by planning and training for such scenarios. They must reinvigorate older C<sup>2</sup> and communications systems and processes, complementing existing space-based technologies to achieve redundancy and ensure situational awareness. They must also develop the capability to deny an adversary information superiority by developing cyber-warfare and counter-space systems. Most importantly, Australia and its allied partners must enhance 'mission command'

in order to permit greater implicit communications. Such measures will not negate the threat. But they will improve the ability of the ADF and allied militaries to operate in a degraded information environment.

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## NOTES

1. This article is based on a paper submitted in partial fulfilment of the requirements for the degree of Master of Operational Studies from the US Marine Corps University, and is published with permission of the US Marine Corps University.
2. Attributed to Napoleon Bonaparte (1769-1821). See, for example, <<http://en.proverbia.net/citastema.asp?tematica=303>> accessed 23 August 2012.
3. US Department of Defense, *Space Operations*, JP 3-14, Joint Chiefs of Staff: Washington DC, 2009, p. ix. The terms 'information dominance' and 'information superiority', as used in this article, are interchangeable.
4. See, for example, US Department of Defense, *The National Military Strategy of the United States of America*, Department of Defense: Washington DC, 2011, p. 3.
5. Australian Government, *Defending Australia in the Asia Pacific Century: Force 2030* (Defence White Paper 2009), Department of Defence: Canberra, 2009, p. 85 and US Department of Defense, *The National Military Strategy of the United States of America*.
6. US-China Economic and Security Review Commission, *The Implications of China's Military and Civil Space Program: Hearing before the US-China Economic and Security Review Commission*, 112th Congress, 1st session, 11 May 2011, pp. 40 and 51. Some analysts predict that China may hold the counter-space and cyberspace means required to achieve large scale information environment degradation by 2020.
7. US Department of Defense, *Information Operations*, JP 3-13, Joint Chiefs of Staff: Washington DC, 2006, pp. GL-9 and I-1.
8. US Department of Defense, *Information Operations*, p. I-2.
9. See, for example, US Department of Defense, *Information Operations*, p. I-5. This document defines 'information superiority' as the operational advantage gained by the ability to collect, process and disseminate an uninterrupted flow of information, or a flow at least at a rate faster than that of the enemy.
10. US Department of Defense, *Space Operations*, p. H-7. Adversaries will probably attack the transfer of information by interrupting or distorting the electromagnetic spectrum, on which the vast majority of information, including 100 per cent of space-related information, is currently transmitted.
11. Andrew F. Krepinevich, *Why AirSea Battle?*, Center for Strategic and Budgetary Assessments: Washington DC, 2010, p. 15, citing that, in 2001, the Director of the Defense Intelligence Agency testified to Congress that US military forces might confront Chinese anti-satellite capabilities by

2015. One year later, he advanced that timeline to 2010. Yet on 11 January 2007, after three failed attempts, the People's Liberation Army (PLA) rocket forces destroyed an inoperative Chinese weather satellite. The speed with which the Chinese were able to overcome the technological challenges of an anti-satellite weapon is clearly impressive, especially given US intelligence estimates that it would take the PLA considerably longer than it did.

12. Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China*, Annual Report to Congress, Department of Defense: Washington DC, 2010, p. 7.
13. See, for example, Defense Science Board, *The Future of the Global Positioning System*, Office of the Under Secretary of Defense for Acquisition, Technology and Logistics: Washington DC, 2005, p. 4.
14. Defense Science Board, *The Future of the Global Positioning System*, pp. 33-37.
15. US-China Economic and Security Review Commission, *The Implications of China's Military and Civil Space Program*, p. 55.
16. Peter W. Singer, 'Battlefields of the Future', Brookings Institute, 4 February 2011: see <[http://www.brookings.edu/opinions/2011/0204\\_future\\_war\\_singer.aspx](http://www.brookings.edu/opinions/2011/0204_future_war_singer.aspx)> accessed 14 October 2011.
17. US-China Economic and Security Review Commission, *The Implications of China's Military and Civil Space Program*, p. 55.
18. US Department of Defense, *Space Operations*, pp. II-1 to II-2.
19. US Department of Defense, *Space Operations*, p. D-5.
20. See, for example, Tony Capaccio and Jeff Bliss, 'Chinese Military Suspected in Hacker Attacks on US Satellites', *Bloomberg*, 27 October 2011: see <<http://www.bloomberg.com/news/print/2011-10-27/chinese-military-suspected-in-hacker-attacks-on-u-s-satellites.html>> accessed 12 November 2011; and Craig Guthrie, 'China-US Satellite Warning a Hot-Button Issue', *Asia Times*, 4 November 2011: see <<http://www.opensource.gov/>> accessed 12 November 2011.
21. Department of Defense and Office of the Director of National Intelligence, *National Security Space Strategy: Unclassified Summary*, Department of Defense and Office of the Director of National Intelligence: Washington DC, January 2011, pp. 4-8.
22. See, for example, Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China*, pp. 36-37; US-China Economic and Security Review Commission, *The Implications of China's Military and Civil Space Program*, pp. 3 and 13; Krepinevich, *Why AirSea Battle?*, p. 15; and US-China Economic and Security Review Commission, *The Implications of China's Military and Civil Space Program*, p. 38.
23. See, for example, Marc Haufman and Dafna Linzer, 'China Criticized for Anti-Satellite Missile Test', *The Washington Post*, 19 January 2007: see <<http://www.washingtonpost.com/wp-dyn/content/article/2007/01/18/AR2007011801029.html>> accessed 23 August 2012.
24. Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China* 2011, p. 5. During 2010, Beijing launched five BeiDou navigation satellites. China plans to complete a regional network by 2012 and a global network by 2020. China launched nine new remote sensing satellites in 2010, which can perform both civil and military applications. In 2010, Beijing also launched two communications satellites (one military and one civil), a meteorological satellite, two experimental small satellites and its second lunar mission during the year. It was announced in late December 2011 that China had begun to operate the BeiDou navigation satellites system over China and 'surrounding areas': as reported, for example, in 'Chinese Satellite Navigation System Begins Operations', *Space News*, 27 December 2011: see <<http://www.spacenews.com/commentaries/chinese-satellite-navigation-system-begins-operations-xinhua.html>> accessed 24 August 2012.
25. David Foxwell and Mark Hewish, 'GPS: Is it Lulling the Military into a False Sense of Security?', *Janes International Defence Review*, Vol. 31, No. 9, 1 September 1998: see <<http://search.janes.com/Search>> accessed 14 November 2011.



26. US Department of Defense, *Global Positioning System (GPS) 2008*, A Biennial Report to Congress, Department of Defense: Washington DC, 31 October 2008, pp. 21-22.
27. Clay Wilson, *Network Centric Warfare: Background and Oversight Issues for Congress*, Congressional Research Service Report for Congress, RL32411, 18 March 2005, p. 2: see <<http://search.ebscohost.com/>> accessed 16 November 2011. The 'network centric' approach to warfare is the military embodiment of information age concepts. It involves collaboration and sharing of information to ensure that all appropriate assets can be quickly brought to bear by commanders during combat operations.
28. US Marine Corps, *Marine Corps Operating Concepts – Third Edition*, Marine Corps Combat Development Command, Quantico, June 2010, pp. 29-33.
29. Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China* 2011, p. 6.
30. Krepinevich, *Why AirSea Battle?*, p. 16.
31. Tom Clancy, *Into the Storm: a study in command*, Berkley Publishing Group: New York, 2007, pp. 370 and 450.
32. Michael R. Gordon and General Bernard E. Trainor, *The Generals' War*, Back Bay Books: New York, 1995, pp. 387-88.
33. John J. McGrath, *Crossing the Line of Departure: Battle Command on the Move, A Historical Perspective*: Combat Studies Institute Press: Fort Leavenworth, 2006, p. 211.
34. Dorothy L. Finley, 'Handling Degraded Communications', *Military Review*, Vol. 81, No. 2, March/April 2001, p. 33: see <<http://www.proquest.com/>> accessed 16 November 2011.
35. Information Office of the State Council of the People's Republic of China, *China's National Defense in 2010*, 31 March 2011: see <[http://merln.ndu.edu/whitepapers/China\\_English2010.pdf,12](http://merln.ndu.edu/whitepapers/China_English2010.pdf,12)> accessed 18 November 2011.
36. Karl W. Schlegel, 'Old Technology in a New Age: The Case for HF Communications', *Marine Corps Gazette*, Vol. 95, No. 10, October 2011, p. 87.
37. Schlegel, 'Old Technology in a New Age', p. 88.
38. Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China* 2011, p. 5.
39. McGrath, *Crossing the Line of Departure*, pp. 199-200 and 215-16.
40. McGrath, *Crossing the Line of Departure*, pp. 199-200 and 215-16; and Clancy, *Into the Storm*, pp. 272-75. In 1991, the US VII Corps established three tactical command posts ahead of its main command post. The first was the primary tactical command post (TAC CP), led by the corps G-3, which followed behind the main effort in the centre of the corps area. A smaller 'Jump TAC CP', under the leadership of the deputy corps commander, followed the primary supporting effort as it conducted an important breaching operation. VII Corps employed the second Jump TAC CP at the very front, immediately behind the lead elements of the main effort division. In 2003, V Corps successfully employed a similar methodology, using assault CPs in the same manner as the 1991 Jump TAC CPs, and maintained effective C2 as the corps moved over 350 miles in three days.
41. The 'directed telescope' is a historical solution to the inability of commanders to observe all, or at least the critical, events directly. It involves using a dedicated information collector—whether a trusted and like-minded subordinate or a sensor—to observe selected events and report directly to the commander. As noted in US Marine Corps, *Command and Control*, MCDP 6, US Marine Corps: Quantico, October 1996, p. 76.
42. US Marine Corps, *Marine Corps Operating Concepts*, p. 17.
43. US Marine Corps, *Marine Corps Operating Concepts*, p. 22; and US Department of the Army, *Mission Command*, FM 6-0, Department of the Army: Washington DC, 3 September 2011, pp. 2-5.

## Book reviews

### *In Business and Battle: strategic leadership in the civilian and military spheres*

Charles Style, Nicholas Beale and David Ellery (eds.)  
Gower Publishing: Farnham UK, 2012  
ISBN: 978-1-4094-3377-4

Reviewed by Brigadier Chris Field, Australian Army



The UK's Royal College of Defence Studies (RCDS) is a sister institution of Australia's Centre for Defence and Strategic Studies (CDSS). Its mission is:

... to prepare senior officers and officials of the United Kingdom and other countries, and future leaders from the private and public sectors, for high responsibilities in their respective organisations, by developing their analytical powers, knowledge of Defence and international security, and strategic vision.<sup>1</sup>

This book concentrates on the final aspect of the RCDS' mission, 'developing ... strategic vision'. Vice-Admiral Charles Style, RN (Retd), Nicholas Beale and David Ellery edit eight chapters authored largely by RCDS students who completed the RCDS 'Strategic Issues Programme' in 2009. Their collective views are effectively augmented by ideas written by a range of strategic leaders from business and government, who include Dr Lutz Bertling, President and Chief Executive Officer of the European Aeronautic Defence and Space Company, and Lord Christopher Patten, the last British Governor of Hong Kong.

The aim of *In Business and Battle* is to 'illuminate critical aspects of contemporary top strategic leadership, and provide commentary on them'. Frustratingly, the book frequently uses but does not define the term 'top strategic leadership'. However, it defines 'strategic leadership' as characteristics demonstrated by people who have a clear sense of the timeline relevant to strategic decision making, an ability to effectively match resources and capacity to strategic intent, an attitude of 'what *can* I do?' as the starting point, and an ability to spot top talent and nurture it.

The book's eight chapters span issues which include the current strategic environment; perspectives on leadership and strategy; commercial leadership; uniqueness of strategic leadership; characteristics of strategic leaders; strategic leadership in a multinational and multilateral context; decision making in the strategic environment; and spotting and nurturing strategic leaders.

An interesting series of ideas are introduced by the authors regarding multinational, multicultural and multi-sectoral challenges facing strategic leaders. While ideas on multinational and multicultural challenges are relatively well known, thinking on multi-sectoral challenges is rare. The US Agency for International Development defines a multi-sectoral approach as 'responses to [a challenge/problem] by different functional or sectoral ministries or agencies .... [which] can be intra-sectoral or inter-sectoral'.<sup>2</sup>

For the ADF, the Defence White Paper 2009 describes various ‘sectors’, including civilian aviation, security, private, public, civilian, industry, and defence industry, but does not describe a defence-led ‘multi-sectoral approach’.<sup>3</sup> *In Business and Battle* provides useful ideas on multi-sectoral approaches to defence, and the 2013 Defence White Paper provides an opportunity to introduce this powerful concept into Australian security thinking. In facing complex security challenges, a future ADF must be adept at synchronising the efforts of various sectors supporting Australia’s security into a collective and creative multi-sectoral approach.

*In Business and Battle* is an earnest and enduring book that synthesises the inputs and thoughts of the RCDS class of 2009. It is a useful compendium for defence professionals seeking insights into the nexus between strategic leadership in business and in the military. In short, excellent strategic leadership is rare in both activities. The book gives useful examples of how strategic leaders in business and war, including Nelson Mandela, General Sir David Richards and General David Petraeus, have made good and bad decisions for their organisations.

Perhaps Australia’s CDSS could approach a similar project on strategic leadership, either independently, or in collaboration with RCDS. The result may continue to enhance strategic thinking for future leaders in Australia and beyond.

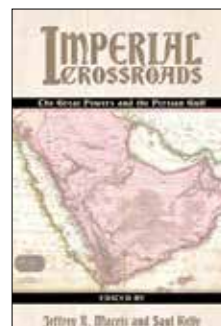
## NOTES

1. Defence Academy of the UK, *The Royal College of Defence Studies*: see <<http://www.da.mod.uk/colleges/rcds>> accessed 8 January 2013.
2. Ishrat Z. Husain and Renuka Bery, *Implementing Multi-sectoral Approaches: a preliminary review of USAID’s experience* (draft), US Agency for International Development (Bureau for Africa, Office of Sustainable Development): Washington DC, March 2002, p. 2: see <[http://sara.aed.org/multisectoral/publications/multisectoral\\_approaches\\_draft.pdf](http://sara.aed.org/multisectoral/publications/multisectoral_approaches_draft.pdf)> accessed 12 January 2013.
3. Commonwealth of Australia, *Defending Australia in the Asia Pacific Century: Force 2030*, Department of Defence: Canberra, 2009, pp. 24, 57, 83, 112, 128, 130 and 134.

### ***Imperial Crossroads: the Great Powers and the Persian Gulf***

Jeffrey R. Macris and Saul Kelly (eds.)  
Naval Institute Press: Annapolis, Maryland, 2012  
ISBN: 978-1-5911-4489-2

Reviewed by Commander Robert Woodham, RAN



This book is a collection of 11 essays, each of which deals with an aspect of how and why a string of foreign powers have come to the Persian Gulf, what they sought to achieve and the degree to which they were successful. The author of each chapter brings their own perspective and expertise. This enables the book to illuminate its subject from various angles, including trade and economics, military power, grand strategy and national prestige, cultural and religious considerations, and domestic politics. Although concise (184 pages in the hardback version), this structure enables the book to provide a densely-packed treatment of the subject and offers numerous ‘jumping-off’ points for further study, assisted by extensively referenced notes.

Starting with the Portuguese at the turn of the 16<sup>th</sup> century, the early chapters cover the period of Dutch and English influence, chiefly through their respective East India companies, the Dutch Verenigde Oost-Indische Compagnie (VOC) and the English Honourable East India Company (HEIC). For these European powers, trade was the main game, although attempts by the Portuguese to spread Christianity were a peripheral motivation and hardly blessed with success.

As the VOC's staggering hegemony grew, trade in the region came to be centred on Persian silks, which were required as trade goods for use further east. Specie was the only other commodity that the Dutch could offer, which was attractive to the East Indies markets, yet a steady drain on this resource was not sustainable in the long term back in Holland. After the decline of the VOC's influence in the Persian Gulf in the 18<sup>th</sup> century—due to a mixture of internal upheavals in Iran, the geographic dislocation from the VOC's main administrative centre in Batavia and a general decline in Dutch global economic hegemony—the HEIC moved in to fill the vacancy.

Initially motivated by trade, English interests became more complex with time. After the defeat of Napoleonic France, the Royal Navy dominated the world's oceans but it could do little to protect India—which at that time bordered Afghanistan—from the overland threat from an expansionist Russia. Thus began the strategic jostling for influence in the region between the British and Russian Empires, known as 'The Great Game'. Three chapters deal with various aspects of British domination of the region, starting with the Great Game itself, then looking at the various facets of 'Pax Britannica', by which Britain sought to cement her influence in the area, and finally the abrupt and largely unexpected demise of British influence in 1971, precipitated by disastrous economic conditions at home.

The obvious next step was for the US to take over the role of regional security guarantor from Britain; the next two chapters explain why this did not happen. With a military budget under pressure from the Vietnam War, the US opted against direct involvement, preferring to establish Iran and Saudi Arabia as local proxies instead, through its 'Twin Pillars' strategy. It seems that President Nixon gave this policy practical support by manipulating the price of oil (upwards) to provide these countries with sufficient revenues to then purchase American military hardware.<sup>1</sup> The book is forced to simplify the story somewhat at this point, by avoiding a digression into Arab-Israeli history, which it leaves to other sources—but this is an understandable limitation to its scope.

After a short chapter on the insurgency in Oman in the 1970s, and Britain's involvement in it, the next two chapters deal with the sudden demise of the Twin Pillars policy, as a result of the regional upheavals of 1979. Although the primary cause was the Iranian revolution of January 1979, the strategic picture was further complicated by the Soviet invasion of Afghanistan in December of that year and the start of the Iran-Iraq war in the following September. These developments cast Saudi Arabia in the unlikely role of sole US proxy, albeit with Israel once again playing an ambiguous part on the sidelines. They set in train a closer military relationship between the US and Saudi Arabia, which was to prove highly significant in the later Gulf Wars against Saddam Hussein.

The focus then shifts eastwards, addressing Indian policy towards her regional sphere of influence in general and the Persian Gulf in particular. The starting point is the foreign policy statement made by Prime Minister Nehru in 1961, which interestingly he expressed in terms of US President James Monroe's so-called 'Monroe doctrine' from the 19<sup>th</sup> century, which

aimed to curtail any increase in European control of the western hemisphere. Nehru was more honest, and certainly more pragmatic, than Monroe, whose original statement included the words 'with the existing colonies and dependencies of any European power, we have not interfered and shall not interfere'.<sup>2</sup>

This was a staggeringly brazen falsehood, given that Monroe was speaking less than a decade after the end of the war of 1812, in which the US had certainly 'interfered' with Canada, invading it and being prevented from annexing it only by a lack of military ability rather than of political desire.<sup>3</sup> In contrast, Nehru's approach explicitly acknowledged India's limitations at the time, although it was also ambitious and set the scene for future developments as India's power grew. The chapter outlines this growth and discusses several alternative future strategies, interpreting them in terms of the Monroe doctrine and exploring their implications for the Persian Gulf.

The final chapter deals with China's 'historic return' to the Gulf, a phrase which refers to Admiral Zheng He's fleet of treasure ships which visited the Gulf in the early 15<sup>th</sup> century. This was followed by several centuries of negligible interaction, which have now come to an end. Although the chapter has a predominantly economic focus, it also explores a range of other factors. The commercial and economic drivers are probably the most important, though, and these are explained expertly and in some detail.

In broad terms, China is one of the Gulf's largest oil buyers but also exports a roughly equivalent value of consumer goods to the region. Chinese labour is also an increasingly important consideration in the relationship. The possibilities for future military interaction are perhaps best revealed by the recent commissioning of China's first aircraft carrier, *Liaoning*.<sup>4</sup> This event clearly points to China's ambitions for a blue water navy, capable of playing its part in extending China's influence beyond its current limits. Overall, the author sees China's growing role in the region as a positive development, rather than a threat to Western interests.

This excellent book will be of great interest to anyone deploying to the region or looking for a broad introduction to the history and geopolitics of the Persian Gulf.

## NOTES

1. Relevant statistics can be found in Robert F. Helms II and Robert H. Dorff (eds.), *The Persian Gulf Crisis: power in the post-Cold War world*, Praeger Publishers: Westport, 1993, p. 63, namely that production of 1.7 million barrels per day (MBPD) earned Iran US\$482 million in 1964, while increased production of 6 MBPD and a higher oil price earned US\$21.4 billion in 1974. This is an increase in revenue by a factor of 44 in 10 years. The Shah's spending on arms increased in a similar manner, from around US\$1.6 billion between 1950 and 1972 to US\$3.9 billion in 1974 alone.
2. President James Monroe, 'Address to Congress', 2 December 1823: see <<http://history.state.gov/milestones/1801-1829/Monroe>> accessed 17 December 2012.
3. See, for example, Jon Latimer, *1812: War with America*, Harvard University Press: Cambridge, 2010 for a recent, comprehensive text on the war: <<http://www.hup.harvard.edu/catalog.php?isbn=9780674034778>> accessed 17 December 2012.
4. See the cover story of *Jane's Defence Weekly*, Vol. 49, Issue 40, October 2012, titled 'China commissions its first carrier'. The article on page 8 stated that 'Liaoning is the latest manifestation of China's long-term objective of building a blue-water navy'. It also noted a Chinese Ministry of National Defense statement saying that the Liaoning will 'help the development of co-operation in distant waters'.

## *Dogfight: the Battle of Britain*

Adam Claasen  
Exisle Publishing: Wollombi, 2011  
ISBN: 978-1-9214-9728-5

Reviewed by Kristen Alexander



Adam Claasen's *Dogfight: the Battle of Britain* is one of the first titles in Exisle Publishing's new 'Anzac Battles' series. Edited by Glyn Harper, the series is devised specifically for an Australian and New Zealand readership and focuses on the great military battles of the 20<sup>th</sup> century in which Australians and New Zealanders participated.

Dr Claasen was the right person to pen this worthy inclusion. He is the author of *Hitler's Northern War: the Luftwaffe's ill-fated campaign, 1940-1945*, which did much to widen our understanding of the Third Reich's way of war. He is also a senior lecturer in modern history and international relations at New Zealand's Massey University, specialising in the Second World War and the role of air power in military campaigns.

When Dr Claasen first embarked on his research into the Battle of Britain, he was asked the same question every researcher faces when putting their foot into a pool that has been saturated by accounts from official, mainstream and niche publishers: 'Do we need another book on the Battle of Britain?'. Happily, he was not put off by the implied negativity of such a query and realised he was in fact being asked, 'What will you be offering that's new?'. By separating the deeds of the Anzac airmen from those of their allies and stressing the important parts played by New Zealanders Keith Park and Archibald McIndoe, and then analysing their overall significance, Dr Claasen has indeed offered something new and valuable.

Before proceeding, I must say that Dr Claasen and I differ on some points. For instance, he accepts Dennis Newton's tally of 37 Australian pilots and gunners participating in the Battle whereas I tend towards the Office of Air Force History's '30 or so'. Disagreements over the totals are par for the course in Battle of Britain research—even official sources vary in participant totals—and they in no way detract from the importance of *Dogfight*. Dr Claasen is not distracted by the discrepancy debate. He highlights some of the problems with totals, acknowledges his debt to Australian Dennis Newton and New Zealander Errol Martyn, and simply gets on with the story.

Dr Claasen has drawn on a variety of sources, such as his own interviews and correspondence, airmen memoirs and official records. Sadly, for such an important book, there are some careless errors. For example, on page 142, Pat Hughes is referred to as a Sydneysider but on page 143 he is a Queenslander. And on page 37, the Blitzkrieg began on 19 May 1940 rather than the 10<sup>th</sup>.

There are also a handful of errors of fact, such as Ken Holland's graduation from Airspeed Aeronautical College on page 172 (he didn't complete his course) and the odd occasions when some facts have been elided, such as on page 176 where it is implied that Edmund Wimperis

witnessed John Crossman's crash. Wimperis was indeed painting nearby but he had gone home before John's last combat and returned to his spot about half an hour after the crash. These few errors of fact appear to have resulted from secondary sources rather than primary evidence (and I have been advised that some errors have been corrected for the first reprint.)

Dr Claasen follows the general chronology of the Battle but many of his sub-chapters are thematic. These changes in perspective—from action to analysis or discussion—are deftly handled. He wastes no words, doesn't get bogged down with detail or thump the reader over the head with his opinions. Nor does he build up a story for dramatic impact. One of the best examples is when it finally hit Gordon Olive why he did not have a high kill rate. Dr Claasen leaves it to Gordon to convey the emotion of this episode, allowing the reader to gain the full poignant impact of a man acknowledging that he had to kill his former friends. Perfectly countering the tragic stories, such as the death of Donald Cobden on his birthday, Dr Claasen liberally sprinkles *Dogfight* with humour—and Alan Deere's 'oxometer' and John Gibson's concern over the fate of his handmade shoes after his bale-out are two of the small joys of this book.

Storytelling aside, Dr Claasen has a gift for précis. His concise summary of the skills of the fighter aces is one of the best I have read and he ably presents the technical differences between the Spitfire and Hurricane so they are readily grasped by the lay reader. His analysis of why the bulk of Battle of Britain victories were at the hands of a small percentage of 'The Few' is nothing short of brilliant. His approach to the complexities of killing in warfare and his discussion of morale are first rate.

Indeed, this is a first rate account of the Battle of Britain and the significant part played by the Australians and New Zealanders. Silly errors aside, I highly recommend *Dogfight* as both a good, accessible read and a fine research tool.

***Uncommon Soldier: brave, compassionate and tough,  
the making of Australia's modern diggers***

Chris Masters  
Allen & Unwin: Sydney, 2012  
ISBN: 978-1-7417-5971-6

Reviewed by Brigadier Nick Jans, OAM, Australian Army Reserve



Top-level investigative journalist Chris Masters begins this page-turner by confessing to a continuing 'adolescent temptation' to see the Aussie digger as we would all like the image to be: principled, heroic and possessing a certain 'something' attributable to the Australian experience. So when his subsequent career took him into war zones in Somalia, East Timor and the 'maddeningly complex battle space' of Afghanistan, he decided to write a book on the experience.

*Uncommon Soldier* (great title!) draws on a swag of accounts of individuals and teams engaged in operations in Afghanistan. It ranges freely across the rank spectrum but its emphasis—in the true Australian spirit—is on the junior or 'common soldier' level.

Masters' heartening conclusion is that the current generation of 'remarkably focused and capable' soldiers are indeed worthy of the Anzac legacy—and that, further, there may well be something in the Australian character that makes us well-suited to such circumstances. Additionally, rather than leave his argument as simple (simplistic) support for the myth of the 'Aussie-as-natural-soldier', he explores the importance of training and experience on professional performance. In the process, he again finds much that is worthy and admirable.

So far, so reassuring. The Australian military profession will welcome this book as a refreshing contrast to the barrage of adverse publicity with which it has had to contend in the past two or three years. However, as one would expect from such an author, Masters' account is not without insightful criticisms. For example, he is far from dewy-eyed about the 'sainted mantle of mateship', observing that although there are mates in all armies, there are also many non-mates and many disaffected soldiers, and what he detected as comparatively minor but nonetheless significant levels of inter-group rivalries and contempt for others.

He is also disappointed with the under-use of the Reserves in a context seemingly well suited to their twin identities of civilian and soldier. He is scathing about ham-fisted career management policies that, for example, take little account of the late-career location preferences of veterans who have 'never said no to a posting' (especially in light of the challenges posed by a narrowing recruiting base and a large and increasing investment in human capital). He sees a marked disparity between the 'cleverness' underpinning the conduct of operations and the type of 'rolling disaster' that happens too often in Canberra's bureaucratic corridors when 'process overwhelms good sense'. Most of all, he criticises Defence's '1980s model of media management' and how it has consistently failed not just the public and political class but the military institution itself.

In this latter respect, this is a book that the Australian military profession—which historically has made little attempt either to understand itself sociologically and politically or to explain itself to the public and political class—may not have fully deserved. But if *Uncommon Soldier* not only helps civilians to gain a better understanding of the military institution (as it will), but also spurs the profession to seriously tackle the scholarly research that will lead to better self-understanding and hence to improved management and public communications (as it should), Chris Masters will warrant double thanks.

### ***Beaten Down by Blood: the battle of Mont St Quentin-Péronne, 1918***

Michele Bomford  
Big Sky Publishing: Newport NSW, 2012  
ISBN: 978-1-9219-4195-5

Reviewed by Dr Noel Sproles



This book struck a special chord with me as two of my uncles were involved in the Mont St Quentin-Péronne 'stunt', to use a soldier's colloquialism of the time. It occurred during the closing months of the First World War, when the 1<sup>st</sup> Australian Corps was in pursuit of the Germans as they retreated east along the Somme Valley. Ahead of them lay the ancient fortified town of Péronne, dominated by nearby Mont St Quentin, both of which were to form part



of the Germans' new defensive line. By the time the Australians reached Péronne, they were exhausted and their artillery and logistic support were struggling to keep up.

Despite this, Lieutenant General Monash realised that he could not allow the Germans time to consolidate and that he needed to keep up the momentum of the pursuit. Although his preference would have been for a set-piece attack, he had neither the tanks nor sufficient artillery to do so. Instead, he opted for a quick frontal assault using 'the skill, discipline, firepower and training of the Australian infantry'. From 31 August until 2 September 1918, Monash displayed great flexibility in manoeuvring his divisions, and even individual brigades, in order to cross the Somme and take Mont St Quentin-Péronne. In the words of Brigadier General 'Pompey' Elliot, Monash allowed the German defences to be 'beaten down by blood', with the Australians suffering some 3000 casualties in the process.

The reader is introduced to the battle with a primer on military organisation and the characteristics of weapons used in the battle. A brief historical background to the battle is provided, covering not only the German offensive in 1918 but the geography of the Somme Valley itself. The battle is covered in some detail and is adequately supported by clear and well-drawn maps and good quality black-and-white photographs. Some of the photographs are from the time, while others depict the battlefield as it is today. Several chapters are devoted to the work done by the engineers and artillery, as well as the debate back home about conscription and how to keep up the supply of reinforcements to the AIF.

The chapter describing the engineer contribution makes reference to Major Watson, responsible for 'Watson's Pier' at Gallipoli, who is described as 'the last officer to embark from North Beach' during the evacuation. While this statement is irrelevant to the story of Mont St Quentin-Péronne, it cannot be allowed to pass without comment. Watson may well have been the last officer to board the last lighter. However, the rearguard commander and members of his staff remained on North Beach after Watson's departure to ensure that everyone had been evacuated before themselves departing on a steam launch. While there is some debate as to which of these was the last officer off North Beach, Charles Bean states that the last man to leave was actually 'the seaman who cast off the line holding the boat'.



A 'souvenired' postcard taken from a German POW by soldiers of the 3<sup>rd</sup> Machine Gun Battalion AIF on 24 August 1918. It is addressed to Jos Schmacks and the salutation is 'Lieber Jozef'.

The narrative in *Beaten Down by Blood* is interspersed with personal memories of soldiers engaged in the battle, as well as views from the home front, both of which highlight the more human aspect of the conflict. At the time, there was a grim resignation about casualties which persisted, to some degree, even through to the Vietnam era. The stripping of POWs of personal items for souvenirs occurred as a matter of course and there are references in this book to items being taken from dead enemy. On the top of Mont St Quentin was a cross with the words 'Here lies six Boche. They met a Digger'. Anecdotes such as this provide interesting insights into how attitudes change over the generations.

The impending centenary of the Great War is certain to see a surge of interest generally in all events connected with it. Many Australian families would have had forebears or other relatives involved in this battle and would find books such as this useful in tracing their movements. For example, it helped me place in context a postcard an uncle sent back to my grandparents, depicting the village of Curlu, just downstream from Peronne. Similarly, the more serious military history reader will also find much of interest in the description of Monash's skill as he manoeuvred his stretched and weary formations.



The note on the back of this postcard states 'This is where we drove Fritz out on the 29th of August. I will mark where we had our machine gun'. The mark can be seen as a cross on the ridge line between the two ruined buildings.

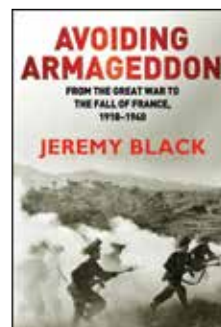
While reading the book, I was uncertain as to which of these audiences the book would appeal to the most or if it would appeal to any of them at all. The elementary introduction to organisations and weapons could not have been intended for those familiar with military history, yet the description of the battle as it unfolded seemed too detailed for the more general reader. However, when reflecting on the author's stated aim of describing 'the battle across a broad spectrum', I came to the conclusion that she had managed the difficult task of catering to these two different levels of readership quite well. The militarily knowledgeable reader could skip through the elementary explanations of military matters, while those interested in following the activities of particular individuals or units could be similarly selective. In either case, the reader could do so without fear of losing track of the overall narrative.

Bomford has produced a well written and presented study into a period of Australia's military history that is slowly re-igniting public interest. It adroitly achieves a compromise between being too detailed or too general, making it likely to appeal to the broad audience for which it was intended. In the process, it recalls a time and attitudes that, like its participants, have passed into history. I would have no hesitation in recommending *Beaten Down by Blood* to anyone interested in the exploits of the AIF on the Western Front.

## ***Avoiding Armageddon: from the Great War to the fall of France, 1918-40***

Jeremy Black  
Bloomsbury: London, 2012  
ISBN: 978-1-4411-5713-3

**Reviewed by John Donovan**



Professor Jeremy Black has written a very interesting book, presenting a strong argument for parallels between the present day and the period between the two World Wars, with low-level conflicts underway around the world during both periods. Statesmen between the wars would not have found credible the idea that the ‘war to end all wars’ had achieved that Utopian objective. From 1919 until 1939, internal and international conflicts were endemic in the vast area between the Rhine and the Pacific Ocean, and south to North Africa and the Indian Ocean. In Latin America, as well as internal conflicts, the Chaco War was a major international conflict.

As Black demonstrates, using the Second World War to judge the correctness or otherwise of British military policies between the wars ignores reality. For most of the period, British forces were focused on events in British colonies or on protecting those colonies from attack, not on a resurgent Germany or an aggressive Japan. The Indian Army, for example, which was criticised by reformers between the wars, performed the tasks required of it effectively.

Black shows that ‘as the number of “players” in [a] conflict rose, the notions of a clear-cut definition of military forces, and of war as the prerogative of the state, were put under severe strain’, as now. The objectives of specific conflicts, and the actual opposing sides, were often obscure. This is familiar now, as is the importance of tribalism in Afghanistan.

The correct balance in armies between men and machines was not as clear between the wars as hindsight might suggest, nor was the appropriate balance between protection, firepower and mobility. The end of dominance by the battleship was not obvious when carrier aircraft were flimsy biplanes. Claims by air power enthusiasts between the wars were not borne out by events, and military power remained hostage to economic fortune. Lessons from the Great War experience aimed to ensure that another major war would not be fought like the Great War, not that there would never be another world war.

As Black reminds us, Hitler was a political failure in the 1920s, with the 1923 Munich *putsch* being promptly suppressed. In the 1920s, Germany was planning against a Polish invasion, not to conquer Europe. The Soviet Union was contained, and France was the dominant land power in Europe. The British, Dutch and French empires retained control of their territories, largely using locally-recruited forces. The Islamic world then, as now, caused much difficulty.

Reviewing the early campaigns of the Second World War, Black concludes that the German forces were not prepared for a *blitzkrieg* in 1939 but learned from the Polish campaign. The German Army remained largely dependent on railways and draught animals for mobility, and infantry and artillery provided essential support to its armoured spearhead. The quality of German tactical and operational leadership was not matched by strategic acumen at the

highest level, and early German success owed much to errors by Poland, France and Britain. Given time and experience, other armies learned to defeat *blitzkrieg* tactics.

Black concludes that ‘variety and unpredictability, the importance of the Far East, and the significance of civil wars’—major themes between the World Wars—are again important. In this context, he sees the rise of China complementing the development of China’s modern identity in the civil and international conflicts of the 1920s and 1930s. Black sees parallels between the issues facing Britain then and those facing the US now, including difficulties with allies and the influence of ‘small wars’ on military development. While Black’s writing style tends to bury the analysis in complex sentences and paragraphs, this is nevertheless a useful publication.

## On-line book reviews

### *Our Schools and the War*

Rosalie Triolo

Australian Scholarly Publishing: Kew, 2012

ISBN: 978-1-9218-7556-4

Reviewed by Dr Dominic Katter



Some 80 per cent of those who died at the Battle of the Somme were members of the so-called 'pals' battalions. The 'pals' battalions consisted of men who had enlisted together at special local recruiting 'drives', on the basis that they would be able to serve alongside their school friends, neighbours and work colleagues. Some of these battalions were decimated during the Somme offensive, leading to the male population of whole communities being devastated.

Many schools, including some of the leading public schools of England, provided the basis for these battalions. Out of the nearly 1000 battalions raised during the first two years of the First World War, over two-thirds were so-called 'pals' battalions. In the Battle of the Somme, some 240,000 British servicemen died (including some 8,960 Australians). There were some 630,000 German casualties. The total approximate net gain to British forces was 8 kilometres by the end of the campaign. In the modern day, it is challenging to understand the education context that was the underpinning to this extraordinary loss of life.

The monograph by Dr Rosalie Triolo, *Our Schools and the War*, focuses on the Victorian government secondary schools in the Great War period. This detailed research provides diverse and interesting background information as to the general educational 'mindset' at the time.

Dr Triolo is a 'history method' lecturer in the Faculty of Education at Monash University, having previously been a teacher for more than a decade within the Victorian secondary school system. The book is based on her doctoral thesis, which was awarded the *Mollie Holman Medal* by Monash University. It is therefore very comprehensively referenced with endnotes (which run to some 39 pages) and the contents are, unsurprisingly, exceptionally detailed.

Although the book focuses on Victorian government secondary schools, there is an ongoing sense that more could have been written on the independent schools in Victoria at the time, acknowledging that methodological limitations no doubt restricted the scope and word length of the original thesis. It also seems that Melbourne High School receives an unduly large number of references, relative to other schools, throughout the research. Nevertheless, the book is an interesting one in that it traverses a range of topics, including the role of individual teachers, educational themes at the time, patriotism within the State school system, citizenship, the developing national identity and public discourse about the war. It also features an array of fascinating images that provide the reader with an understanding of the topics addressed.

Overall, the reader is left with the impression that learning at the time was remarkably contemporary, in the sense that the curriculum dealt with the war in almost 'real time', with school papers requiring discussion as to the battlefields, including such subjects as the use and effects of gas and living conditions in the trenches. The underlying theme of the work is perhaps best summed-up by the quotation at pages 222 and 223 of the book:

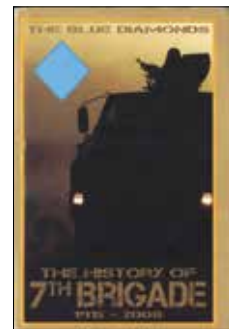
And so our school shall see them nevermore!  
And only tender memories remain,  
And loving pride that takes the stinging pain,  
Making them dearer than they were before.

Thus, in the places once they occupied,  
Are come, not phantoms that will change and fly,  
But vital presences that will abide;  
As, all night long, beneath a summer sky,  
After the splendors of the sunlight die,  
There lives a glow across the darkened tide.

***The Blue Diamonds:  
the history of the 7th Brigade 1915-2008***

David Belham and Peter Denham  
Land Warfare Development Centre: Puckapunyal, 2009  
ISBN: 978-1-7411-4403-1

**Reviewed by Officer Cadet William Leben, Australian Army**



David Belham and Peter Denham's history of the 7<sup>th</sup> Brigade is a comprehensive account of the Brigade from its formative days early in the First World War through to its contemporary involvement in operations in the Middle East. Both authors boast service within the brigade, with Belham most recently serving as Commanding Officer of the 7<sup>th</sup> Command Support Regiment from 2002 to 2004. This edition is the product of Belham's supplementary research, updating an earlier version authored by Denham in 1987. The project was facilitated by the Commander 7<sup>th</sup> Brigade, Brigadier (now Major General) Stephen Day, with the aim of creating an up-to-date and long-lasting history of the formation.

The text centres on the conduct of the Brigade throughout the First and Second World Wars, and the authors' examination of its organisation and activities is impressively in depth. The structure, composition and movements of the Brigade are tracked often to the hour, and formation strength recorded quite literally to the very last cart and bicycle, with essentially every notable engagement covered in detail.

Photographs, tables and reproductions of original document sources, such as after-action reports, are extensively included, and the text regularly closes in on the more intimate details of gallantry awards, in contrast to its wider operational focus. Some 18 appendices add a deal of depth to the text, including a number of Brigade Commander biographies, unit diaries and various reports reproduced at length, and honours lists. These inclusions largely add yet more detail to the already intricate histories of the First and Second World Wars.

One shortfall is a sometimes minor treatment of the non-operational history of the Brigade. This is true in terms of both the wartime years covered as well as the interwar periods. Periods where the Brigade was 'off the line' tend to be treated with a one or two sentence description of the men enjoying their down time and a wash, and the interwar years of 1920 to 1940 are given just three short pages. Despite this being a period of downsizing and tight funding, this treatment seems inadequate. That said, these criticisms are relatively minor ones. Belham's detailed account of the peacetime activities and extensive restructuring of the Brigade and its units since the 1980s is far better, and perhaps suggests a simple and seemingly likely lack of sources to cover earlier non-operational periods in any sort of depth.

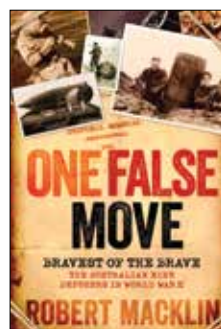
Coverage of contemporary operations is comprehensive, recording the involvement of Brigade units in operations as wide as Timor, Afghanistan, SUMATRA ASSIST and assistance to the 2002 Commonwealth Heads of Government Meeting. However, one gripe is that the often intricate detail included in the account of Brigade operations in the World Wars is lacking in Belham's coverage of recent operations. This appears to be an opportunity missed, given the far greater availability of documentary sources and potential for extensive input from the officers and soldiers involved, especially in light of the publication's stated goal of recording a long-lasting and up-to-date history of the formation.

This is not a book for the casual reader of Australian military history and one feels that Brigadier Day's glowing foreword may go just one step too far in commending it 'to all with even a slightest interest in military history'. It seems a far too detailed and technical treatment of its subject matter to attract such a readership. Rather, the great value of Belham and Denham's contribution is as a worthwhile read for those with a close and professional interest in the history of the Australian Army and, of course, those in search of a close treatment of the 7<sup>th</sup> Brigade itself. While at times inconsistent in its provision of detail, it achieves its aim of providing an up-to-date chronology of the Brigade.

### ***One False Move: bravest of the brave, the Australian mine defusers in World War 2***

Robert Macklin  
Hachette: Sydney, 2012  
ISBN: 978-0-7336-2794-1

Reviewed by Jim Truscott



This book is an accident of history, as no-one could have thought that a small group of Australians from the Royal Naval Volunteer Reserve scheme would have such an impact on the ground war among the civilian population in the UK.

I certainly had no appreciation of the impact that the German parachute mines and bomb mines (dropped without parachutes) had on the psychological war in the UK and later in Europe, when ports were denied until the mines—which had a large amount of high explosive—could be defused or destroyed in place with substantial damage to surrounds. A ton of explosive going off 300-400 yards away was more or less commonplace to them.

It is a very personal history, almost mine by mine, and while the individual background stories fatten the book and the 'Australiana' patriotism is a little too much for me, it is an easy read. It describes how with a bit of luck and bit of science they engaged in perilous warfare, defusing mines in between stays in hotels, many 'benders' and pub lunches.

It was very much a voyage of discovery, as the Germans continually changed the fuse mechanisms throughout the duration of the war, literally engineer-on-engineer warfare. They had a lot of power to requisition stores but to render a mine safe was no simple undertaking. The stories are telling, full of individual technical competence and large doses of fear. There are many rollicking yarns interspersed with deadly history. They very much lived for the moment, not knowing if they would make it through. There were no funerals as there were no bodies. They only had 'funk holes', some 23 seconds run away. While defusing, their arm muscles often felt like they were in constant spasm and their bodies would sometimes be stunned to total immobility.

Every change in German tactics required a new method of degaussing and it is little wonder that one of them was awarded the George Medal and bar for consistent coolness and courage in dealing with 100 unexploded mines. In mid-1943, following the surrender of the Afrika Korps, they had to deal with a large cache of mines that had been timed to go off anytime between 6 and 80 days!

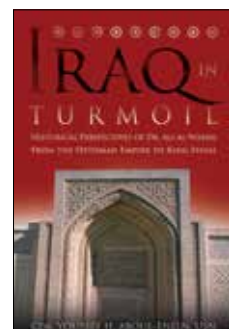
They perfected underwater defusing, requiring extraordinary courage—and, subsequently, 'P Parties' (Port Clearance Parties) were called into action after D-Day to delouse individual mines off the Normandy coast, in ports and later in the Pacific War. Interestingly, Ruhlemann—who was the German mastermind behind the fuses—was captured in May 1945 and imprisoned for a year before working for the US against the Soviets from 1948 onwards.

While it would have been interesting to have included some context in terms of overall mine numbers and their impact on the greater war effort, this book is a valuable contribution about a relatively unknown and vital part of Australia's military history. It will be enjoyed by technical and non-technical readers alike.

### ***Iraq in Turmoil: historical perspectives of Dr Ali al-Wardi, from the Ottoman Empire to King Feisal***

Youssef H. Anoul-Enein (ed.)  
Naval Institute Press: Annapolis, 2012  
ISBN: 978-1-6125-1077-4

**Reviewed by Air Commodore Mark Lax, OAM, CSM (Retd)**



The recent war in Iraq exposed American, Australian and other allied armed forces to a very different culture, religion and social structure that make up Iraqi society. Most were unprepared for the culture shock, let alone the constant threat to their lives from exposure to armed insurgents and terrorist groups. This book sprang from the need to better prepare US troops for this encounter and to develop some understanding of why the Iraqi people are the way they are.



Originally published between 2009 and 2010 by [the US Army Journal] *Armor*, this collection of 11 essays purport to be abridged translations, with commentary, of an eight-volume work by Iraqi academic, sociologist and historian, Dr Ali al-Wardi. According to the book's editor, Commander Anoul-Enein, the idea 'was to make all eleven essays accessible to Americans with an interest in or who are deploying to Iraq'. Anoul-Enein goes on to state that many Iraqis and other Arabs read and discuss this work and so al-Wardi's work offers a unique insight into the Iraqi people and their psyche.

Each chapter contains a foreword written by a senior US military officer or US Defense civilian, professor or librarian, and then examines al-Wardi's work as separated into key events in Iraqi history. For example, there is a chapter that covers World War 1 (Chapter 4) and another, the rise of Prince Feisal (Chapter 9). The book ends with a chapter on the rise of Ibn Saud in the mid-1920s and the decline of the Hashemites in Arabia. A short conclusion rounds off each chapter, exhorting Americans to note such-and-such a key point or principle, and often discuss the impact of 'human terrain', whatever that is.

However, I found it impossible to work out when I was reading commentary and when I was reading al-Wardi's translation. Interspersed within the chapters are comments on what Americans should learn or note. An example is the jump, nay quantum leap, to the Tel Afar insurgency in 2003 that led to US Operation BLACK TYPHOON in 2004, when the chapter discusses the events leading up to the Iraqi revolt in 1920. Al-Wardi's work does not cover any US intervention. Other examples are less obvious.

Because each chapter is essentially independent, I also found a lot of repetition and overlap, which is fine for a series of magazine articles, but tiresome for a book of collected essays. This is something a more thorough edit might have fixed. There are a number of minor historical errors (for example, the date of the death of British General Stanley Maude during the Mesopotamian campaign is wrong) and some significant omissions, such as a lack of proper coverage of the Sykes-Picot Agreement—which essentially divided the Middle East between France and Britain and had a significant impact on the development of modern Iraq. Much is made of T.E. Lawrence and the Arab Revolt of 1916, but its impact against the Ottoman Empire was more felt in Palestine rather than Mesopotamia. If you don't know much about Middle Eastern (especially Iraqi) 20th century history, then this book is going to be difficult to follow.

*Iraq in Turmoil* is 173 pages plus index and is printed on good quality archival paper. There are no photographs, but five maps give a general perspective of the region with historical break-out boxes covering key events. The text is a hard read and will take some concentration, as key figures, locations and ideas bombard the reader. As well as the challenges to Iraqi cohesion posed by ethnicity and culture, there are also the clashes within the Islamic faith. The mix of Sunnis, Shiites, Wahhabis, Hashemites, Kurds and Persians, and their interactions and rivalries, makes for a complex study. Then there is the involvement of the British and French as well as the Arab tribes. Let's not forget American Wilsonian political influences either. With so many Arabic and Iraqi terms, interspersed with Islamic concepts that may not be familiar to the Western reader, a glossary of terms would have been extremely useful.

To conclude, I must say I did not like this book at all. I found it confusing, missing key historical events and set at too high a level of language. This work is very much set for an American staff college audience undertaking Middle Eastern studies, not really for those men and women about to deploy. Finally and unfortunately, with Australia's involvement in Iraq complete by mid-2009 and the US by late-2011, this book published in 2012 really comes too little, too late.

## GUIDANCE FOR AUTHORS

The *Australian Defence Force Journal* seeks articles on a wide range of defence and security matters, such as strategic studies, security and international relations. Normally, articles will only be considered for publication if they are current and have not been published elsewhere. In addition, the *Journal* does not pay for articles but a \$500 prize is awarded by the Board of Management for the article judged to be the best in each issue.

### The Layout

Articles need to be submitted electronically and typed in MS Word format without the use of templates or paragraph numbers (essay style). Headings throughout are acceptable (and contributors should view previous issues for style). Length should ideally not exceed 4000 words, including endnotes. Please 'spell check' the document with Australian English before sending. Additional guidelines are available from the website.

Articles should contain endnotes, bibliography (preferably as 'additional reading', to supplement rather than replicate endnotes) and brief biographical details of the author.

### Endnotes

- for articles are required in the style: Edward D. Mansfield, 'The concentration of capabilities and the onset of war', *Journal of Conflict Resolution*, Vol. 36, No. 1, 1992, pp. 3–24.
- for monographs are required in the style: Edward D. Mansfield, *The Concentration of Capabilities*, Allen & Unwin: Sydney, 1998.

### References or bibliography

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- for monographs are required in the style: Mansfield, Edward D., *The Concentration of Capabilities*, Allen & Unwin: Sydney, 1998.

Tables, maps and photographs are acceptable but must be of high enough quality to reproduce in high resolution. Photographs must be at least 300 ppi in TIF format and obviously pertinent to the article.

### The Review Process

Once an article is submitted, it is reviewed by an independent referee with some knowledge of the subject. Comments from the reviewer are passed via the Editor to the author. Once updated, the article is presented to the Australian Defence Force Journal Board of Management and, if accepted, will be published in the next *Journal*. Be advised, it may take quite a while from submission to print.

Authors with suitable articles are invited to contact the Editor via email at:  
publications@defence.adc.edu.au

Authors accept the Editor may make minor editorial adjustments without reference back to the author, however, the theme or intent of the article will not be changed.

