
Planning for the Future in the Australian Defence Force
Major General John Hartley (Retd), Royal United Services Institute

What are the Trends in International Security over the Next 20 Years?
Mr Max Boot, Council on Foreign Relations, New York

Combined Civil—Military Responses to National and International Events
General John Abizaid, Former Commander US Central Command

Transformation Requirements to Meet Emerging Trends
Mr Terry J. Pudas, US Department of Defense

Lessons Learned from Contemporary Operations
Lieutenant General Ken Gillespie, Vice Chief of the Defence Force

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Chairman’s Comments

I am delighted to be able to present to our readership this special edition of the *Australian Defence Force Journal*. It contains the proceedings of our very successful joint Australian Defence College (ADC)—Royal United Services Institute (RUSI) International Seminar conducted in May 2007.

The topic we selected, ‘The Future Australian Defence Force—Learning from the Past, Planning for the Future’ is one of significant relevance and importance not only to policy practitioners, but to all Australians with an interest in matters that impact on our national interest. I believe the ADC as well as RUSI has a role to play in facilitating public awareness about important issues of national security and defence policy.

The Australian Defence Force is currently engaged in the highest level of operational commitment since the Vietnam War. We are deployed on operations with coalition partners in the global war on terror and in the provision of security and humanitarian assistance to nations in our region as well as further afield. Defence is required to integrate closely with other government agencies to deliver a whole-of-government response, often with very little warning. In addition, Defence is confronting a number of very significant capability decisions that will shape our force structure and the options we can provide to Government for decades to come. These issues need rigorous debate and sound analysis to enable us to make the best decisions—I believe this seminar contributed to that outcome.

We are not alone facing these challenges. Our Public Service colleagues in Defence and other government departments face similar challenges in this age of an ambiguous and uncertain future world security environment. The present challenges of climate change, nuclear proliferation and terrorism may be with us today, but we can be certain that other world problems as difficult will arise tomorrow.

These proceedings are a record of the views of and issues faced daily by the distinguished senior military, academic, public servant and Federal Police practitioners who delivered presentations to the seminar audience. I join Major General John Hartley (Retd) and the RUSI Council in thanking them for their generous participation and I commend these presentations to you.

B.R. Dawson, AM, CSC  
Brigadier  
Acting Commander, Australian Defence College  
Chairman, Australian Defence Force Journal Board
President’s Comments

The Royal United Service Institute (RUSI) of Australia is pleased to be able to co-host this important seminar with the Australian Defence College. The various State-based Constituent Bodies that make up the RUSI of Australia have adopted as the aim of the Institute ‘to promote informed debate and to improve public awareness and understanding of defence and national security’. This seminar, which has adopted as its theme, ‘The Future Australian Defence Force — Learning From the Past, Planning for the Future’, provides an excellent and timely opportunity to consider the future shape and function of the Australian Defence Force by leading academics and past, present and future leaders of Government, Defence and Defence Industry as well as the wider community.

RUSI has a long history of association with the study of strategy and military operations. The Australian organisation grew out of the Royal United Services Institute for Defence studies, which was founded in London on 25 June 1831 to provide officers of the day with programs to broaden their military education. The Institute was first established in Australia in Sydney in 1888, and subsequently in each State and Territory. RUSI today seeks the involvement of current serving and recently retired members, as well as those who have an interest in the defence and security of our country, to join us in continuing to promote the study and discussion of Defence and national security.

To achieve this, RUSI provides a comprehensive library service with its State Constituent Bodies with books oriented towards strategy, defence, military history and biographies of principal personalities and eminent scholars. These libraries are becoming a national asset. RUSI also organises and promotes presentations by eminent speakers, at least monthly, in each capital city. RUSI is presently expanding its horizons towards better web-based access to these speaker presentations. The USI of ACT provides an annual scholarship to a worthy masters degree candidate as another way of promoting study of defence and national security issues.

Every three years RUSI supports a major seminar such as this and has been able to attract to the seminars an extraordinary range of world-renowned speakers, and allied military leaders. This year is no exception.

Of course, RUSI is unable to promote these Seminars without the generous support it receives from Defence and from a range of companies also interested in furthering the defence and national security debate. Their generosity allows us to defray some of the ever-increasing audiovisual and catering costs of putting on such a seminar, as well as supporting the activities of RUSI through the intervening years.

I welcome your continued involvement with RUSI and trust that you will enjoy these presentations.

J.C. Hartley, AO
Major General (Retd)
National President, RUSI of Australia
Managing Editor’s Introduction

This is a special edition of the *Australian Defence Force Journal* which contains the proceedings of the very successful Australian Defence College and Royal United Services Institute of Australia combined Seminar for 2007. Readers will note a few differences between this and the standard format of the *Journal* which requires some explanation.

First, the new design is intended to stimulate further readership. Starting with this edition, we will include a list of titles on the front cover, alerting readers to the contents. This is in keeping with other refereed journals of similar professional standing.

Second, these proceedings are set out from transcripts of speeches made during the seminar, so readers need to keep that in mind. There are no formal papers as such. Likewise, some presentations were not recorded, so unfortunately, not all the presenters appear in this edition.

The proceedings are presented in three sections—overseas speakers, senior ADF speakers and invited panellists—all are in order of their delivery at the Seminar.

Third, this edition of the *Australian Defence Force Journal* will get a much wider distribution than usual as the RUSI will send a copy out to each of their members.

I sincerely thank the presenters for their quality presentations and hope you enjoy this special edition.

Mark Lax
Air Commodore (Retd)
Managing Editor, Australian Defence Force Journal
Planning for the Future in the Australian Defence Force

Major General John Hartley, AO, (Retd), Royal United Services Institute

It is probably useful to start with some consideration of fundamental issues. How has the Government employed its military elements of power, and what factors can we foresee that might influence the type of defence force it might need for the future?

I think it is obvious to us just how difficult and complex an issue it is to determine a defence policy. After all, there are numerous competing factors, including how we spend our budget, identifying our potential threats, how we would use our military force for other than dealing with threats, and of course many of these judgments require us to look to the future.

Nor can Defence change its priorities quickly, particularly when it comes to changing doctrine and capabilities.

Many of us believe that we are living in a period of perhaps increasing uncertainty and changing times. Of course, change itself breeds uncertainty, but for many, this is not a new set of circumstances, although the rate of change may be faster and more pervasive than anything we have experienced so far. Indeed, if we were to examine the history of our defence force, we would see that our strategic guidance, or the way our Government considers what military force it needs and how it would use it, has changed several times since Federation.

For the first 40 years or so, we were very much influenced by Britain’s imperial outlook. Many of the decisions that were made in Whitehall and by the British Chiefs of Staff Committee clearly had an impact on us, and through this process we continued to fight in the South African War and entered World Wars I and II.

Some time after the fall of Singapore and the abject failure of the Singapore strategy, we changed our policy to something we called ‘forward defence’.

This implied that we would fight our enemies offshore, ideally in coalition with a major partner, initially certainly the United Kingdom and increasingly the United States. As a result of this thinking, we took part in the Korean War, the Malayan Emergency, and of course, Vietnam.

The Vietnam War was something of a determining factor. As a nation, I think we were determined immediately after we withdrew from Vietnam, not to again become involved in any foreign military adventure, and instead we opted for a defence policy which would look solely at the defence of our homeland.
Initially, it was a continental policy which required the mass mobilisation of large numbers of people, a policy probably which the strategists of the early 1940s would have been comfortable with. But over time, this developed and moved into a maritime concept—essentially a concept which required us to defend the sea–air gap to our north. This would see us concentrate on our maritime capabilities.

At the same time, we went through a very significant decline in the real value of our budget. This occurred year after year for about 12 years. At the end of this period, we had a much smaller defence force and one probably that was not capable of doing as much as it might have done 20 years before. Our strategists believed that existing forces, essentially naval and Air Force capabilities, together with a smaller Army, could be deployed in the unlikely event of lower-level offshore contingencies.

But throughout the 1990s, many of us remained uneasy with this policy, and I have to say, many of us were probably mostly in the Army.

In that decade, Australia committed or in fact prepared troops to deploy overseas on about 25 occasions. And many of those deployments were to take place well outside our region. Most of them related to a peacekeeping or a peace enforcement operation, and of course, not surprisingly, these commitments in low-level conflict very much involved close interaction with the civil population, and as such were labour-intensive and time-consuming.

Much of the deployed force came from the Army, that under the Defence of Australia concept, received the smallest part of our development budget at least. Indeed, in major capital equipment terms, in the five years before 1996, the Army had received something between 7 per cent and 13 per cent of the major capital equipment budget.

So every year for over a decade, the Army was enjoined to do more with fewer resources. Certainly, it could be more efficient in some areas. There were clearly savings to be made by combining common elements within and between the Services. Common approaches to certain outcomes such as information management made sense. Civilian employment, including contracting, was possible and more sensible than employing scarcer and more expensive Service people—at least initially. But there was a limit to this, and certainly by the late 1990s many units in all three Services were increasingly hollow, our equipment was ageing, our support services becoming less reactive and there was a general sense, I think, that we were losing our effectiveness.

We did, of course, go through a series of reviews, that for many of us appeared to mask our decline with ever more effort required to manage the change.

All this came to a head with the deployment to East Timor. I knew as Land Commander at the time of our inadequacy in such areas as communications, deployable logistic support and engineering support. If we had to sustain the initial force that we deployed there, within two rotations we would have needed to expand our deployable infantry force by at least 30 per cent.

Then came September 11—surely one of those rare, historical, defining moments. Since then, Australia has increasingly been involved in the so-called ‘war on terror’, with constant
deployments to Iraq and Afghanistan. This in turn has caused us to review our doctrine and our capabilities.

Determining defence strategy and the size and composition of a defence force is fraught with difficulty. Not only are planners confronted with the uncertainty of predicting the future, something that no individual or organisation has done accurately or consistently, but they must also deal with the vagaries of the political process. Defence capabilities often take years to be identified and acquired and many remain in service for decades.

Politics, by its very nature, tends to have a relatively short-term outlook. Politicians and their advisers—and increasingly their advisers play a role in this issue—are often too immersed in day-to-day considerations, and have little time or inclination to tackle the vagaries of long-term complexities, many of which require lengthy and sustained consideration.

So this is not a process that is a smooth intellectual exercise with predictable forward moving steps, culminating perhaps in the issue of a White Paper. From a capability developer’s point of view, a White Paper was often the starting point for a challenge, or it could be a document to be exploited for a totally different outcome than that which was originally envisaged.

I have not even touched on the challenges of converting capacity requirements into deployable outcomes.

It is also seldom clear how a government will use its military element of power. Governments will have to use the forces they have, rather than those they wish they had. The more we constrain the range of capabilities or emphasise niche requirements, the greater the likelihood we will not have the forces we need when we are required to deploy. East Timor again comes to mind.

Likewise, Intelligence Organisations always give two ranges of opinion, both extremes.

On the one hand, there were those who would not make any major policy decision without an intelligence backing. In some ways, they were protecting their futures.

At the other extreme were those who took no notice of intelligence, who said that intelligence had consistently got their outcomes wrong, that they were just as capable intellectually of predicting the future, and that they would go ahead and do it anyway. There were a surprising number of senior people who fell into that category.

In reality, somewhere in between was the real issue. Back in the late 1980s, who amongst us could possibly have imagined that the Soviet empire would collapse, that the Berlin Wall would fall, that Yasser Arafat would be in Gaza, that President Mandela would run South Africa, that the British Government would talk to Sinn Fein and that the LDP would no longer be politically in charge of Japan?

There is one school of thought that says if you can not predict the future, then perhaps we should base our capabilities on the most dire consequence we may face.
To a certain extent, this was the reasoning of the Defence of Australia group—to a certain extent. Of course, the affordability of such an approach may well make this impossible—something that few of our strategic analysts at the time would acknowledge.

A further development from this approach is that we may well create a military force that will never deploy, and in so doing prevent the Government from using its military arm to achieve other tasks that do not relate to the direct defence of our country.

Finally, having determined what we want to achieve with our forces and receiving confirmation of what the Government is prepared to fund, a decision is then required on the types and number of defence capabilities to be acquired.

However, capabilities are not just simply numbers of ships, aircraft, tanks or battalions. Doctrine—that is, how we fight, must be developed, and the forces manned, equipped and trained. Supporting capabilities, infrastructure, intelligence, fire support, logistic support, communications, engineering support, to mention but a few, need to be acquired as well.

Strategists frequently overlooked this issue.

Nor can this happen overnight. A soldier deploying to the trenches in the First World War probably required about three months of intensive training. A soldier deploying on World War II operations probably had about six months. Units deploying to Vietnam would frequently have up to a year of individual and collective training. It is even more today.

Now let me consider three groups. I am going to cover strategic analysts, politicians and military officers.

First, strategic analysts. They represent a small part of the community, but often have significant influence. Many are government employees. Some are from academia, others from independent ‘think tanks’. They seek to be objective, but can be constrained by institutional and political bias. Many have reputations to uphold—reputations often based on previous analysis. They are hostage to groupthink and ethnocentrism, and all the other fallacies that corrupt the clarity of a genuine visionary. Occasionally, they get it right, but even less frequently are they able to convince policy-makers.

The second group are the politicians and their principal advisers, and while defence is a major issue for a small number of them, their primary focus is winning elections and retaining dominance in government. Long-term and uncertain outlooks, particularly which are costly, with little immediate result, are neither popular nor recommended.

The third and final group are the senior uniformed officers of the defence force. They certainly have an interest in defence capability. Many are strategically sophisticated, but they are often divided in outlook, frequently immersed in the detail of their individual Service, and constantly have to juggle the competing demands of operational deployments and preparing for future deployments, let alone have time to consider what a defence force should look like 20 to 30 years from now.
Nor are we, as a group, universally accepting of any particular strategy. Indeed, I cannot recall a strategic concept for defence, Defence of Australia, a maritime or a littoral strategy, Army 21, the Army Model, Strategic Warning, et cetera, that did not have a significant number of in-house critics. Nor is it helpful that some concepts, such as the Expeditionary Model, for instance, were merely terms designed by competitors to tarnish their critics’ reputations.

This business is anything but precise. Neither should it be, if we are to keep pace with a changing world, the outcomes of which none of us can foresee.

But we must develop capabilities—the consequence of not doing so would be to have no defence force at all.

It seems to me that in very broad terms in this country, we have three schools of thought with regard to strategic direction. They frequently overlap and alter or change their stance from time to time.

The first group, and the one that clearly has attempted to define its position with some precision, is that which supports the concept of the Defence of Australia. They gained considerable dominance in the strategic vacuum left after Vietnam, with the publication of a review conducted by Professor Paul Dibb.

To a certain extent, this group has broadened its approach, with the recognition of the so-called ‘Arc of Instability’ to our north, and the need to have high readiness ground force units that are capable of conducting peacekeeping, policing and some nation-building operations.

But the advocates of this concept still see the maritime strategy as their principal focus, and do not advocate an Army with any significant offensive capabilities, and certainly do not accept the need for heavy armour or heavy artillery.

A second group of strategists advocates a greater conventional ground force, heavier armour and firepower. Forces capable of rapid deployment over greater distances are all part of their concept. They also advocate a broader range of capabilities than lightly armed labour-intensive infantry battalions, to deal with what might be described as failed states.

To their way of thinking, low-level, non-conventional threats, be they regional or from Islamist extremists, can only represent a heightened military challenge. The use of increasingly sophisticated explosive devices, often delivered by suicide bombers, who willingly or otherwise are shielded by a local population, requires large numbers of troops, employing sophisticated tactics based on first-rate intelligence, and that cannot be acquired overnight.

Troops also require protection, as they seek to contain or eliminate a threat. Their adversaries will range from individuals to small groups, who could be well armed. The use of tanks, one of the hang-ups of the Defence of Australia advocates, may be the only way of containing such a threat, without unacceptable casualties. In these circumstances, this is not a conventional capability, but rather, a sensible precaution for dealing with armed elements in, for instance, a built-up area.
Firepower must be delivered clinically and precisely. Casualties must be minimised on all sides. The return to normalcy must be protected. Civil affairs units and reconstruction teams need to be deployed and protected, and must be part of the military force.

We need to consider information operations, much more than we have in the past, including the use of psyops to counter the disinformation of our adversaries.

And finally, the resurrection of a failed state may require the deployment of military forces for many years.

This group also has a greater global perspective than the traditionalists of the Defence of Australia. They see globalisation and the absence of national boundaries that characterise a number of militant groups, as indicative of the need for wider military deployments.

Therefore, they see other issues that could affect our long-term security, that do not necessarily reside in our immediate area, but which could trigger instability in Asia and our immediate region.

These include conflict in the Middle East, that results in a serious disruption of world oil production, with a negative impact on the global economy; a decline in American confidence and capability; the failure of governments in a number of countries, leading to an increase in extremist elements, with international implications—in other words, safe havens for terrorists to be able to arm and train and to prepare for future operations; an increase in proliferation, where the number of states possessing nuclear weapons drastically increases; and finally, the possibility of climate change, medical pandemics or some form of natural disaster, leading to a large population displacement.

All these issues could have an impact on our strategic policy and capabilities.

The third and final group is an emerging group, that has advocates in both camps. It believes in the need for a much greater whole-of-government approach. It believes that more emphasis needs to be placed on understanding why states fail. Corruption, poverty, crime and a lack of employment require more than simply the temporary deployment of armed forces.

They believe that the creation of jobs and education opportunities would go a long way to reducing unrest in the region, and must result in fewer defence deployments.

I think this is an increasingly sophisticated group, based more in academia and non-government ‘think tanks’ than in the military or policy areas of government. It has yet to have a powerful influence, in part because it is not owned by any department nor does it have longstanding advocacy.

Nor does it speak with one voice. Some among this group would advocate that the global war on terror is ill-defined and too simplistic, and that the emerging pattern of Islamic, pluralistic politics does not coincide with our brand of secular, liberal democracy.

Others will point to the fact that Muslim leaders and intellectuals find it easier to criticise outsiders for the harm inflicted by Muslims. They will say that a lack of democratic space
in much of the Muslim world has prevented the emergence of mass non-violent protest movements, especially when the protests need to be aimed at other Muslims.

But all agree that the challenge is not how to destroy Islamic movements, but how to turn them away from revolutionary to reformist politics. Converting this concept into a defence strategy represents an inordinate challenge, that I suspect would defy almost anyone.

In conclusion, we face a most significant challenge. I doubt that there is a correct answer, except perhaps to call for greater flexibility and adaptability.

Unfortunately, strategists abhor a vacuum, nor do they like disorder. Many, for instance, would be intolerant of ambiguity, or be readily prepared to suspend judgment while examining further evidence.

Instead, they prefer a calculable environment and rational processes. After all, as Bertrand Russell said about philosophers—how many of us would be genuinely happy as pirates or burglars? And the older I get, the more inclined I am to put up my hand.

Major General John Hartley graduated from the Royal Military College, Duntroon in 1965. He served twice in South Vietnam, once as a platoon commander and subsequently as an adviser to the South Vietnamese Army. During these tours he was wounded three times, twice mentioned in dispatches and awarded the Vietnamese Cross of Gallantry. After a year’s hospitalisation, he served in a number of staff and training appointments, including the inaugural appointment to the Intelligence Centre Pacific in Hawaii from 1977 to 1980.

As a general officer, he has headed Army’s Training Command, served as the Director of the Defence Intelligence Organisation, Deputy Chief of the Army and Land Commander Australia. In this last appointment, he commanded the Army’s 38,000 combat force and supervised the preparation of forces deployed to East Timor. Major General Hartley retired in early 2000.

Major General Hartley is a graduate of the University of Queensland, the US Army War College, the Army’s Command and Staff College and the Joint Services Staff College.

He was made a Member of the Order of Australia in 1987 and an Officer of the same Order in 1992. He has been awarded the US Army Commendation Medal three times including one for Valour, the US Air Medal for Valour, the Vietnamese Cross of Gallantry and is the only Australian to be a Knight Commander of the German Order of Merit.

Since his retirement, Major General Hartley has worked as an adviser to the National Crime Authority. He is a Senior Fellow of the Company Directors’ Association of Australia. He is the National President of the Royal United Services Institute of Australia [RUSI], the Australian Army Training Team Vietnam Association, and Chairman of the Battle for Australia Committee, patron and member of a number of military related organisations and Honorary Colonel of the Australian Intelligence Corps.
What are the Trends in International Security over the Next 20 Years?

Keynote Address

Mr Max Boot, Senior Fellow, National Security Studies, Council on Foreign Relations, New York

My mandate here is to talk about trends in international security over the next 20 years but I have to warn you I am an historian by training and by inclination and therefore I cannot possibly start talking about the future without talking about the past. So, when you look at trying to assess what is ahead, as the seminar slogan has it, ‘learning from the past, planning for the future’, I am going to emphasise the learning from the past and talk about some of the broad trends in international security affairs over the last 500 years and then try to advance, and try to think a little bit about what is ahead in the next 20 years.

What I would like to do is present an overview of some of the arguments that I make at much greater length in a book that I published last Fall, entitled War Made New: Technology, Warfare and the Course of History –1500 to Today. That book is a study of revolutions in military affairs, a subject that I and many other people, of course, have been very interested in over the course of the last two decades or so, really stemming from the Gulf War.

I think the 1991 Gulf War triggered the current and ongoing interest in revolutions in military affairs and their impact. And it is not hard to see why because it was obviously one of the most lopsided defeats in military history, in part, because of the superior technology that was available to Coalition forces. The use of GPS devices to make the famous ‘left hook’ through the sands of Iraq and Kuwait possible; the use of surveillance systems, such as the JSTARS and AWACS and many others; and the use of ballistics computers on M1 tanks. And in many ways, the most amazing technology of all, precision-guided munitions or ‘smart bombs’ (I was just reminded of how incredibly revolutionary they really are by visiting the Australian War Memorial a couple of days ago and going to that wonderful exhibit with the Lancaster bomber).

It made me appreciate the heroism of those crews who risked their lives over the skies of Germany in World War II. It also makes you realise what an imperfect instrument of destruction they were actually flying. Think about how inaccurate bombs were, whether from the Lancaster or the B-17 or B-24, or any other aircraft of World War II. Back then, you were lucky if you could get a bomb within half a mile of the target and so if you wanted to take out a target—let’s say a German warplane factory—you had to send 1000 aircraft with 10,000 crewmen, and you’d put a lot of them at risk, and you still might not take out the target, while destroying the entire city around it. This was because once the bomb left the bomb bay, it was pretty much at the mercy of gravity and very hard to predict where it was going to fall.
Well of course, with developments in precision technology, laser guidance and many others in the 1970s and 1980s, by the time the Gulf War in 1991 rolled around, one aeroplane, one pilot, and one bomb could achieve what had taken 1000 aircraft to achieve in 1944–1945.

So it is no wonder that when we see developments like that, that people are wondering about the impact of this information revolution, this breakthrough in technology that we have seen over the course of the last several decades. There has been a lot written on that subject and I am sure many of you are familiar with the professional literature.

Now, what I try to show in my book, *War Made New*, by taking a step back, is to present a broader narrative that looks not just at the current revolution in military affairs but at four revolutions in military affairs over the course of the last 500 years.

Of course, there are different ways to categorise the past, but the way I do it is to divide the last 500 years into these four ‘mega-revolutions’, beginning with the gunpowder revolution which began to transform the world around 1500.

Then the first industrial revolution whose impact was felt from 1850 onwards from roughly the Crimean War up to World War I.

Then the second industrial revolution which is the term that I give for the internal combustion engine, tank, radio, aeroplane—that group of technologies, whose impact was felt in World War II.

And then, the information revolution driven by advances in microchip technology since the late 1960s.

Now, this is obviously a big chunk of history to bite off and what I do in the book is try to tell the story through a series of battles that illustrate the larger trends that were going on in the world at the time, beginning with the French invasion of Italy in 1494, and concluding with the Coalition invasion of Iraq in 2003.

One of the points that I stress is that what makes a revolution in military affairs is not just the technology, but the combination of new technology with new tactics, techniques and procedures, new ways of fighting, new ways of organising, new ways of training.

And the culmination or the realisation of these revolutions in military affairs is an intensely difficult and challenging enterprise for the officers involved—those who are on the front lines and have to figure out how to master new technology, whether it was a Francis Drake or a John Hawkins, struggling in 1588 to figure out how to take advantage of cannons mounted on sailing ships to defeat the Spanish Armada, or a Curtis LeMay, struggling in 1944–1945, trying to figure out how to take advantage of B-29 long-range bombers to defeat Japan.

I like to focus on the human element which I think is vitally important and which is often not considered adequately enough. Some of the literature tends to focus on systems and takes a very narrow, mechanistic engineering approach to what is, in fact, a very difficult human enterprise and which depends upon the ability of people to realise the potential of these new technologies, which may or may not result in revolutions in military affairs.
So, at the end of this 500 year narrative of revolutions in military affairs I take a step back and ask what does this mean for the future? In many ways, that was the toughest part of the book because, as I said before, I am an historian. I am not a seer. I do not have this crystal ball to tell me what is ahead but I try to draw some lessons from the past.

One of the major lessons that I draw or one of the major themes that I draw out of the book is simply how incredibly important these revolutions in military affairs have been in shaping the modern world, in making it look as it does today. It is not obvious to most people today because—I cannot speak for Australia but I certainly know in the United States—we have all but ceased to teach military history in our high schools and in our universities. So there is a vast amount of ignorance about the impact that skill in military affairs has had in shaping the world, yet it is pretty obvious.

When you look back at the very first revolution in military affairs, the gunpowder revolution, I pick up the story about 1500 or so. But if you go back to 1400 or so and you ask yourself—around 1400, who were the most important military powers on the planet? If the International Institute of Strategic Studies were doing a survey of the world circa 1400, who would it rate as the great military powers of the day?

If you were taking a look at the world around 1400, you could probably say maybe the Chinese or you could say the Ottomans, maybe the Tartars, the remnants of the Mongol hordes, I think they would all have a good claim on pre-eminence.

The key point here is, it was not the Europeans. In 1400, Europe was a pretty insignificant player in world politics. Around 1450 Europeans controlled about 14 per cent of the world’s land surface—not a lot. By 1914, Europeans controlled 84 per cent of the world’s land surface—almost everything. That is the big story of the last 500 years, the rise of the West. How did that come about?

If you had asked a 19th century European that question, the answer you would have been given would have been along the lines of, ‘Europeans were a master race, they were destined to rule, this was God’s design’—answers like that.

Not so. Europeans were beneficiaries of a moment in time, albeit one that lasted hundreds of years. But the reason they were able to take over much of the world was because they first mastered the gunpowder revolution and then the industrial revolution, which gave them the wherewithal to go everywhere around the world and to conquer almost everybody that they met.

This was a pretty extraordinary achievement, because they were able to take advantage of gunpowder technology much better than the Chinese, who invented it. But for various cultural reasons the Chinese could not harness its potential in the same way that the Europeans did. However not everybody in Europe was equally successful in the throes of these military revolutions.

Some of the early movers, the Iberians—the Spanish and the Portuguese—jumped to an early lead in the 1400s and 1500s. But by the time industrialisation was starting to occur in the 1700s
they were fading from the great power ranks and there was the emergence of the Northern European tier of great powers. Britain, France, Austria, Prussia, Russia—those became the new great powers of Europe and of the world by the late 18th century.

Then, industrialisation got going full steam in the 19th century and some states were able to industrialise effectively. Others were not, and those who could not paid a catastrophic price on the battlefield.

By the end of the First World War, the major conflict of the first industrial era saw the collapse of ancient dynasties—Ottoman, Hapsburg, Romanov—all of them competitive in the gunpowder age but not able to harness military power effectively in the industrial age.

You saw the rise of new competitors, in particular Germany and Japan, which do show their mastery of industrialised warfare.

Then to the Second World War, the major conflict of the second industrial age. Another major turn of the tide, with pretty much all of the great powers of the past consigned to second or third tier status and the emergence of two new superpowers dividing the world between them, in large part, because of their prodigious industrial capacity.

Skipping ahead a few decades and we come to the 1980s and the early 1990s. One of those superpowers collapses. Now, why is that? Obviously, there are a lot of reasons why Communism was not a terribly efficient system but why did the Soviet Union collapse when it did?

I would argue that one of the precipitating events was the information revolution—the fact that the West, the United States in particular, had a Silicon Valley and they did not. The Soviets were keenly aware of this imbalance which was affecting them in terms not only of economic power but also military power.

In fact it was the Soviet General Staff that coined the term military technical revolution because they were so worried about what was going on. They had a series of premiers, culminating with Gorbachev, who tried to reform the Soviet system. They failed, it collapsed.

Now, that is a very abbreviated version of a very complex process—the decline and fall of the Soviet Union. But I think there is a good deal of truth to it which is that the information revolution, just like every previous revolution in military affairs, has already had a gigantic impact on international affairs and contributed to the collapse of a bipolar world and to the rise of a unipolar world dominated by the United States. Once our major rival had collapsed and once our armed forces had shown their prowess at information age warfare in the Gulf War of 1991 we were left standing alone atop the world, as sort of 'king of the hill'.

In the years since then, we have learned that being ‘king of the hill’ ain’t all it’s cracked up to be. With great power comes great discontent and we have been suffering some of that discontent in the last several years, and I will get to that part of the story shortly.

But let me pause here and address one of the central issues, which is, what does it take to come out on top and to struggle for global primacy? How do you establish your dominance in these periods of great flux and change called revolutions in military affairs?
Because I have been talking a lot about military technology you might think that the answer I would give you is to have much better military technology than your rivals. That sounds logical and yet that has very rarely been the key to long-term dominance.

It is very hard to establish long-term military superiority based on the assumption that you will have better technology than your adversaries, because the pattern of history is that when technology proves its worth it tends to spread very, very rapidly to friends and foes alike.

And there is no better example of that than one of the most significant directed research and development efforts of all time. The United States poured billions of dollars and spent years on the Manhattan Project to develop an atomic bomb and we did it and it worked. A tremendous achievement. Within four years the Russians had exactly the same thing. That is very much the pattern of history and we are seeing that play out today.

When you think back over the last several decades one of the key American advantages over many potential adversaries has been our string of spy satellites, our reconnaissance satellites. A program we have spent many billions of dollars developing, going back to the Eisenhower administration.

Well guess what? Everybody in the world now has access to reconnaissance satellites. All you have to do is go to the Internet and go to Google Earth. It is there for anybody to use and, in fact, I was struck by a report that I saw out of Iraq a few months ago saying that insurgents in Southern Iraq were using Google Earth to do reconnaissance work on British military installations which is pretty much what you would expect to happen. That is the pattern of history.

Many other key American advantages are also slipping away. As recently as the Gulf War in 1991, night-vision goggles and GPS devices were basically an American monopoly and now you can get those wonderful pieces of equipment in basically any hardware store on the planet. It is very hard to have long-term advantage based on superior technology and I doubt that we will succeed at that ourselves in the future. So if it is not better technology what is it? What is the key to prevailing in one of these periods of flux?

After spending four years of study, the answer I came up with was not terribly sexy and not terribly surprising but I think it does have the advantage of being true, which is that it is organisation, it is bureaucracy. In essence, it is who has a more effective governmental structure for harnessing the inventions which are available for anybody to use and who can take advantage of them better than their adversaries. Let me cite one example of that which is one of the most famous examples of a revolution in military affairs of all time, the Blitzkrieg.

How was it that the Germans were so successful in overrunning France and the Low Countries in the spring of 1940? It was not because they invented the tank or aeroplane. It was not because they had more tanks or aeroplanes. It was not even because they had better tanks or aeroplanes. In fact, the French had better tanks than the Germans.

If there was any technological advantage that the Germans had it was simply the fact that most of their tanks and aeroplanes had two-way radios and that was not the case with the Allies. But, again, the radio was not a German invention. Radio was invented by Marconi,
an Anglo–Italian. Everybody in the world had radios in 1940 but only the Germans realised how incredibly important two-way radios could be for command and control in the field, for enabling this fast moving war of manoeuvre.

The Allies did not realise it would be that important because they were still stuck in the static trench warfare mindset of World War I. They were not looking to fight a fast moving war of manoeuvre. So, the German advantage was not that they had better equipment. It was the fact that they were able to out-think their adversaries in peacetime and thereby to outfight them in wartime, at least initially.

If you ask what was the secret German weapon, if there was one, I would argue it was not the Panzer or the Stuka or the aeroplane. If anything, it was the German General Staff, which was a supremely effective instrument of military organisation from the early 19th century to the mid 20th century.

The German General Staff, this group of intellectuals in uniform, pioneered many of the planning techniques, many of the exercises, many of the ways that military power is harnessed even today by every organised military in the world. What they really excelled in was doing the kind of peacetime planning that others were not doing and thinking about how to take advantage of new inventions; for example in the mid 19th century, the rifle, the radio and the telegraph, used so successfully by Von Moltke to create the unified German State run by Berlin.

Obviously there are limitations to what even a very successful bureaucracy, like the German General Staff, could do as can be seen from the fact that Germany lost both World War I and World War II. We should be keenly aware of the limitations of military power if not matched by political wisdom or a way of utilising it.

But nevertheless, we have to give the German war machine its due because in both World War I and World War II, the Germans had a massive lead over the Allies which required many years and heavy expenditures of blood and treasure to finally prevail. It was a very close run thing and could have perhaps gone the other way.

That is an illustration of the broader point about the importance of organisation in harnessing these revolutions in military affairs. Now the kind of organisation has changed over the course of the last 500 years. Up until fairly recently, these revolutions in military affairs were a powerful force for centralising governmental authority. In fact, the very origins of the modern nation state lie in the initial gunpowder revolution because gunpowder weapons were too expensive for the noble lords of Europe, for the feudal system that prevailed in Europe in the Middle Ages.

It really needed the resources of a super lord to field armies and navies armed with gunpowder weapons and that led to the rise of absolute monarchies and nation states as we recognise them today.

The two industrial revolutions carried the process even further and led to the rise of these giant welfare and warfare states that could mobilise the entire resources of industrialised society and send it marching off into battle and get millions of men killed but also pay pensions to those who survived.
That has been the trend up until fairly recently but, as many people have commented, while previous trends have been a force for centralisation, the information revolution has been a powerful force for decentralisation. The monopoly of information once held by a few giant organisations, whether in the private sector or in the government, has been broken and the landscape has entirely changed.

It is just staggering to me what has happened over the course of the last 20 or 30 years. Twenty years ago in the United States, if you wanted to find out what was going on in the world you had to tune into one of three network newscasts at 6.30 pm. Today you find out all the time anytime what you want from a number of sources, whether the Internet or satellite TV and you can repeat that in many fields of endeavour.

We have seen in business what a revolutionary impact information technology has had over the course of the last several decades where many old-line companies that were supremely successful in the industrial age are not so successful in the information age.

These giant lumbering firms like General Motors or Ford or US Steel or so many others, could not make the transition into this time where, two inventors sitting in a garage can come up with an idea that a year later is worth a billion and a half dollars, like YouTube, for example. That is a very different kind of competitive environment and it is one in which different kinds of companies have flourished.

We have seen the rise over the last several decades of companies as disparate as Google and Microsoft and eBay and Dell, and so many others, whose competitive advantage by and large has not come from having superior technology but from having superior management systems and offering superior decentralisation and superior nimbleness in taking advantage of new technological developments faster than their rivals.

We have seen exactly the same kind of phenomenon occur in the realm of international security affairs. And, unfortunately, what I see is that in many ways, our enemies are being more successful than we are in taking advantage of the very technologies that we ourselves invented.

When you look at the competitive landscape, when you look at the war between the United States and al-Qaeda, for example, in many ways the US Government is like the Ford or General Motors of governments. This kind of lumbering old style bureaucracy that used to work pretty well in the days of the Cold War or World War II, does not work so well any more. It is become old and slow and weighed down by multiple layers of bureaucracy and that is true of many governments in the West.

On the other hand, you look at our enemies and they do not have anything that we would understand as being a conventional order of battle. They do not look like a conventional military organisation, but in some ways that is their advantage. They are a networked organisation, not a hierarchical stove-piped organisation, they are incredibly decentralised. We are having a hard time coming to grips with that because we are used to fighting mirror image adversaries where you can figure out what their command structure is and take it down and that is an essential part of winning the battle.
In this case we can take down their leaders any time we want, well not anytime we want, but often we are able to take down their leaders such as Abu Masab al Zarqawi or the Mullah who was killed in Afghanistan. And it does not make any difference because this organisation regenerates itself in this kind of network structure. This has been very frustrating for our forces battling in places like Afghanistan and Iraq because what we are finding is that our enemies have been half a step ahead of us. In part I would argue, there are different reasons for it and part of it has to do with the fact that they are more ruthless, they have no respect for human life. They are also on the offensive and being on the offensive is inherently easier in some ways than being on the defensive.

But nevertheless I would say that we have been weighed down by our institutional bureaucracy inherited from the industrial age which is not so useful in the information age. One can give many examples of this, but just to take one minor example; if you look at the realm of information operations, you can see how successfully groups like al-Qaeda and Iraq insurgents conduct information operations often within hours of an attack in Iraq, they are not only able to videotape it, but to upload that video and to get it on to cell phones all across Iraq within hours of an attack.

And what does the Coalition do in response? Well, three days later we may issue a press release after it has been approved at the corps level, which is what it takes to issue a press release. We are not moving quite as fast as they are and it really has the most deadly repercussions when you look at improvised explosive devices (IEDs) for example which have been the number one killers of Coalition troops in Iraq over the course of the last four years.

They use really basic technology. It is not rocket science. In the early days it was often something as simple as an artillery shell wired up with the garage door opener. They have become more sophisticated since then but nevertheless when you think about the United States military, with a budget of over $500 billion and the most sophisticated technology on the planet, you would think that we would be able to defeat a simple device like the IED, and yet we have not.

Over the course of the last four years our casualties from IEDs have stayed remarkably steady. We are still losing the majority of our casualties to these attacks and we are still losing one, two, three soldiers and marines a day, notwithstanding all the innovations that we have made. We have got new jammers in the theatre. Our Humvees are driving around with these jamming devices, some have up-armoured Humvees.

We have done other things to try to adapt, but the enemy is managing to adapt faster than we are. They are staying half a step ahead of us and every time we field better armour they field better explosives and are still able to achieve the effects that they desire. Now, we can jam some frequencies but then they set off their bombs with pressure plates or infrared devices or something else. There are a thousand different ways to set off roadside bombs and unfortunately these people are finding all of them.

I think part of the reason for this disparity appears when you think about what it takes for a government like the United States to field a new method of fighting IEDs. Well, you have to get sign-off from multiple layers in the Pentagon. You have to get an appropriation from Congress. You have to get it out into the field. You have to go through all procurement bureaucracy. This is a very lengthy process even when it is at its most abbreviated.
Our enemy does not have any of that. What is al-Qaeda and some of these other groups? What do they have to do to test a new technique? It is very simple, they just go out and do it. If it does not work they die and that is the end of it. But if it does work and Americans or others die then they very quickly replicate that across Iraq and indeed across the entire world using information technology and that is a very difficult enemy to come to grips with.

We should put this in historical perspective and realise, of course, that there is nothing new about guerrilla warfare, there is nothing new about terrorist tactics. I am not sure that I agree with those who talk about a new generation of warfare. I am not sure that is what this is because in some ways guerrilla and terrorist tactics are as old as recorded warfare and, in fact, predate the rise of conventional armies. Every great captain in history from Alexander and Caesar to Napoleon has had to deal with guerrilla warfare and they were often stymied by them and often had trouble coming to terms with guerrillas.

So what’s new about it? I think there are two things about the kind of threat that we face from guerrilla warfare today and they are its reach and its destructive potential. Both of these are a bad news story from the Western perspective because we are used to thinking about guerrillas as being a low-level, nuisance threat. We send off our armies to campaign in the Sudan or Malaya or Vietnam or some place like that, and far from home, and they may or may not succeed but it is not an existential issue.

Unfortunately it is becoming an existential issue because of the much greater power that guerrillas are able to wield today as opposed to what they had 100 years ago.

Let me mention the Battle of Omdurman in 1898, where the British—and of course some Australian troops as well—were facing an enemy that in many ways, ideologically at least, had a good deal in common with the kind of enemies that we face today on battlefields including the Sudan.

In the 1880s there was a Jihadist uprising in the Sudan led by the self-proclaimed Mahadi-a Messiah who promised to cleanse Islam and lead his people on a great Jihad against the infidels. In fact they succeeded in chasing the British out of the Sudan for a number of years.

But then in 1898 General Kitchener arrived with his 25,000 troops and his machine guns and there was no contest. The Sudanese Dervishes very obligingly fought in exactly the way that General Kitchener would have preferred. They lined up their troops, attacked at sunrise and got slaughtered, just downed en masse by the superior British firepower because, they had no idea what machine guns could do.

In 1898 there was not much that a group like the Sudanese Dervishes could do to a mighty Western power like the British Empire. It was inconceivable in 1898 that you could have Sudanese Dervishes coming to London to kill British people in London.

The Third World was simply too cut off from the First World to make that a possibility. The trade and the commerce and the military interaction was all one way. It was the West acting upon the rest, with the rest of the world relatively helpless to resist.
Well, that obviously has changed very dramatically. Today we worry about terrorists in even the most remote cave in Afghanistan or the Sudan or anywhere else where they can very easily launch actions which can wind up with casualties in New York or London or Sydney or any other large city of the West.

This is largely because of our success in knitting the world more closely together with our technology. The process of globalisation which so many people celebrate and which has been a good thing for Western companies has also been a good thing for our enemies because they are now able to practise their destructive pursuits across a much larger area of the world than was ever before possible.

In the past, guerrilla wars or insurgencies were usually confined to one country or one region. Today you are seeing one of the first global insurgencies and that is the challenge that we face. It has become globalised because of the use of transportation technology but especially information technology, the Internet and satellite TV and DVDs and cell phones and other technology. It allows them to command and coordinate and to recruit and to train and do all these things, many of them in cyberspace. Something that was certainly not available to previous generations of guerrillas.

There is also the element of greater destructive capacity. The spread of weapons of destruction over the course of the last 100 years has been dramatic. In the 19th century, when Western armies were facing adversaries in the Third World, guerrillas or bandits or whatever they called them, were often very poorly armed. They may have had a few muskets, they may have had a few rifles, a few ancient artillery pieces but nothing to stand up to the firepower that Western armies could deploy. Thanks to the productive capacity of Western factories, now we manage to spread our weapons all over the world, so there is no part of the world so remote that everybody there does not have access to an AK-47, to an RPG, to mines and explosive materials. These have become ubiquitous, and we are seeing more and more destructive technology spreading.

Look at the Israeli war against Hezbollah last summer. Hezbollah had a terrorist guerrilla army that was employing sophisticated anti-tank and anti-ship missiles against the Israeli Defence Forces. That is a taste of what is in store for us in places like Afghanistan and Iraq as countries like Syria and Iran using products manufactured in China and Russia continue to hand out their equipment to their terrorists proxies and choose to fight Western countries using those tactics and techniques. I think that is going to be a much more important part of warfare going forward.

Later we face the really horrific possibility that terrorists will get their hands on weapons of mass destruction and at that point, it is very easy to imagine that a small cell of terrorists, smaller than a platoon in size, can have infinitely more destructive capacity than an entire army had a century ago. Imagine if they can get their hands on biological or nuclear weapons. That is the threat that we face, it is an existential threat and so the threat from terrorists and guerrilla warfare, while not new, is much more important than ever before. I would argue, in large part, because these enemies are able to take advantage of Western technology and to turn it against us.
Well, what do we do about this threat? That is the really perplexing, really difficult issue because unfortunately what we see is that these terrorist and guerrilla tactics negate the firepower of a much more advanced conventional army. Look at the United States military. I see all this wonderful equipment that we have; these F-22s and Nimitz Class aircraft carriers and Virginia Class submarines and all these other wonderful things, and they are almost entirely useless for the kind of battles that we actually have to fight in places like Iraq and Afghanistan. They are useful pieces of equipment if you want to fight a conventional adversary.

But there are not too many people who are willing to fight us in exactly the way that we would prefer. Force on force is not the way to engage the Armed Forces of the United States and our allies. There has got to be a smarter way than lining up your tanks and watching them get wiped out by our much superior military.

Of course our enemies are finding a better way and if we are chased out of Iraq as is probably the most likely scenario at this point, it is going to become a vindication of those terrorist tactics to bring down even a super power. We can be sure we are going to see many more of those tactics in the future.

So what do we do about it if our conventional high-tech weapons do not necessarily provide much protection? What we are seeing in places like Iraq and Afghanistan is that while smart bombs are not much use, smart people are of tremendous use and that is what we need more of. We need smart people who understand foreign languages and foreign cultures and civil affairs and policing and intelligence gathering, nation building—all these skills which have been in such short supply in places like Afghanistan and Iraq.

This is actually an area where I would argue that Australia and other countries have a relative advantage in some ways over the United States. You are not as big, you are not as rich, you are not as heavy in your armed forces and you also use the natural advantages you have. Because you have exhibited a natural affinity and understanding of the interaction between foreign cultures (which is something that the United States armed forces need to learn much more about), you often succeed.

So what can the US do? I think we really need to undertake an organisational change within our military and within our government so that we can have greater interaction and greater unity of action between the military and civilian branches of government. We need to tackle the non-military and political tasks in this kind of warfare so that we can also produce the warriors that we need for this kind of battle. Because at the moment, I would argue that we have lots of fine fighter pilots and tank drivers and infantry commanders, we have a surplus of conventional military skills but we have a deficit of the kind of knowledge that we actually need to confront the enemies that we face. I cannot speak for others, but when you look at foreign area officers in our military who are the people who are experts in foreign cultures and languages, that is traditionally been the fast track to career suicide in the US armed forces. That is not how you get ahead. You get ahead by leading American troops into battle.

Well guess what? Now it turns out that leading American troops is not the solution. In fact in places like Iraq, much more than American troop leaders, we need American advisers, people
who are attuned to the ways of the Iraqis and are able to interact in useful ways to enhance Iraqi military capacity. That is not a skill set that we have developed over the course of the last several decades and I think that now we are paying a price for it.

So the bottom line I want to leave you with is that we have had a technological revolution, we have had an information revolution. But we are still struggling to have the organisational revolution that will allow us to take advantage of this technology and to utilise its potential as successfully as our adversaries do. I think that in the 1990s when people talked about revolutions in military affairs, there was a default assumption that if there was in fact a revolution in military affairs it was going to work out to the advantage of the United States and our allies because we had the most advanced technology. Nobody else had stealth fighters, and nobody else had nuclear powered aircraft carriers, or all of these other incredibly expensive weapons systems that we have.

Yet what we are seeing now is the pattern of history playing itself out where the early advantage that an innovator might grab in one of these revolutions in military affairs is now being negated by our adversaries. They are adjusting their tactics, techniques and procedures to negate our early advantage and taking advantage of information technology to fight wars very successfully. The question that we face going forward is—are we capable of the kind of cultural and organisational adaptation necessary in order to take advantage of information technology as effectively as our enemies? The answer to that question will really turn the history of the world over the course of the next several decades.

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His new book, War Made New: Technology, Warfare, and the Course of History, 1500 to Today (Gotham Books), has already been hailed as a ‘classic’. His previous book, The Savage Wars of Peace: Small Wars and the Rise of American Power (Basic Books), was selected as one of the best books of 2002 by several US publications.

Mr. Boot is a frequent public speaker and guest on radio and television news programs, both at home and abroad. He has lectured at many military institutions, including the Army and Navy War Colleges, the John F. Kennedy Special Warfare School, the Army Command and General Staff College, Marine Corps University, West Point, and the Naval Academy. He is a member of the US Joint Forces Command Transformation Advisory Group. In 2004, he was named one of ‘the 500 most influential people in the United States in the field of foreign policy’ by the World Affairs Councils of America.

Before joining the Council on Foreign Relations in 2002, Mr. Boot spent eight years as a writer and editor at the Wall Street Journal, where he served for five years as editorial features editor. From 1992 to 1994, he was an editor and writer at the Christian Science Monitor.

Mr. Boot holds a bachelor’s degree in history, with high honours, from the University of California, Berkeley (1991), and a master’s degree in history from Yale University (1992).
First of all, I am honoured to be here and I was extremely honoured recently to have been at Government House and to have had the opportunity to receive the Order of Australia.

It is a great honour for an American officer to receive that and I think it speaks more to this wonderful relationship that exists between my country and your country than it does about my own personal abilities, so thank you very much for that.

Up to a few months ago, I had a personal staff of around 40 people. I had a bigger staff of about 2000 people and then there were 250,000 people under my command. In the past few weeks it has come down to me and my wife. As I go to the airport now, I have to take my shoes off and all that sort of thing. So it is an interesting transition to make, especially when your lone staff officer, your wife, you hand her a speech and say I am going to give this speech and she looks at you and she says ‘re-write it’.

You know the whole time that I was in command in CENTCOM, whenever I would hand a speech to somebody, I would say how is this—they would say wonderful, excellent, I wish I was as smart as you, General.

I think you all know how that works. Look, it is a great honour to be here and before I talk to you about the strategic implications of what I think is going on in the Middle East, Central Asia and the Horn of Africa, I do want to tell you one thing very quickly.

Primarily, not for the RUSI folks who have experienced long years of service and also served Australia in the civilian capacity or their retired capacity for which you should all be very grateful.

But I want to relay a lesson I learned recently and it has to do with leadership. I was invited to be the commencement speaker at the University Commencement for Virginia Tech. If you are following American media, you will know that at Virginia Tech they had a terrible tragedy that happened a few weeks ago where one of their students went berserk and killed 32 of the fellow students there in the worst massacre that has happened of that sort in the United States.

I was invited to go ahead of time, before the event, and then they insisted that I go afterwards, which I was honoured to do. But the interesting thing that I learned from this is that leadership in time of crisis and leadership in the aftermath of crisis is one of the most important things those of us in our position or in a similar civilian position of leadership can provide.
The university President there and his team that dealt with the crisis and dealt with the aftermath of the crisis were as good as Giuliani in New York or the London Government after the terrorist bombings a while back.

The confidence and the way a team of people come together to deal with those sorts of things needs to be something that we all pay attention to. Leadership—leadership in time of adversity is something all of us get paid to do and we should learn from the examples of people like those at Virginia Tech, New York, London and so on, to make sure that we understand how to do our jobs when things get difficult.

In today’s world, things will be difficult, which brings me to my next subject and a most important subject, which happens to be strategic implications of what I call the ‘Long War’—a term by the way that is not generally accepted throughout the Middle East, it is not generally accepted in some of our allied countries either.

In a desire to understand what we are up against, early on, my staff, myself, people working at the national level, said we have a long-term problem in the Middle East that will require not only American military power, but international military power for a long time, under combat conditions that will hopefully shape the outcome to be one that is to the advantage of not only our country, but the people in the region.

So I want to talk about the long-term implications of the Long War. I think we often get lost in the moment of the tactical problem, whether it is in downtown Baghdad or downtown Kandahar or somewhere off in Mogadishu or wherever the case may be without looking at the broader strategic implications of what is going on.

So you will forgive me if I do not talk about the surge, about Baghdad, about this and that.

But there are certain strategic truths that I want to talk about here that have been with us for a long time and will be with us for a long time to come and unfortunately the political argument in the United States has become one that is about staying, reinforcing or leaving the Middle East, or Iraq in particular.

I want to lay out the strategic implications to show you that the discussion really does not need to be about whether or not we reinforce or whether or not we leave. The discussion in the Middle East needs to be about how we shape the outcome there for the good of the people in the region and for our own good.

There are four major strategic imperatives at play in the region and I will not cover them all in great detail. The first one I think is obvious to all of us, although it is not obvious everywhere; it happens to be the rise of Sunni extremism as exemplified by the ideology of Osama bin Laden and various associated groups.

It is a very serious ideological threat, not primarily to us, although it manifested itself in an attack on us, on our homeland, but it is also a threat to the people in the region. I would postulate to you that the vast majority of people in the region do not want bin Laden’s ideology to become ascendant.
They have seen what it means in Afghanistan under the Taliban, where soccer stadiums were places of execution, where women were not allowed to be part of the future whatsoever, where music was banned and it was a joyless society and they were happy to see the Taliban go.

But it remains a dangerous, resilient ideology that has a lot of themes about it that should worry us. Given the wrong series of events and, should it go mainstream in the region, it could be our worst nightmare.

The second great move that I see in the region strategically that we have to address is the rise of Iranian power and I would call it revolutionary Shi’a Iranian ideology that in its own way is dangerous to peace and security in the region. It has implications for expansion that are extremely dangerous for our own long-term safety and stability, but also for long-term safety and stability in the area.

The third great problem in the region is the continued corrosive nature of the Arab–Israeli conflict. It creates an opportunity for the other two imperatives I talk about; the rise of Shi’a extremism and Sunni extremism, to gain a foothold among the good people of the region. They would not necessarily have the opportunity to gain if we could move that Arab–Israeli conflict into an area that gives people hope and confidence that a process is being examined that could have a solution that both protects the rights and freedoms of the State of Israel and gives the Palestinian people a chance to move forward in a way that realises the Palestinian State.

It certainly is one of the hardest things in the world to think about actually being achievable, but on the other hand when there is a negative feel in that particular conflict, it spreads throughout the region and creates dynamics for the other two problems to gain ascendancy in a way that is quite dangerous.

The fourth strategic imperative, which is certainly obvious to all of us, but we had better keep in mind all of the time, is the continued reliance of the Western economies, indeed the entire global economy, on the continued supply of oil, natural resources and energy from that particular part of the world.

The Bab-el-Mandeb, the Straits of Hormuz, the Suez Canal, those strategic choke points that were so important in the days of the British Empire remain just as important for the United States of America and indeed all of the producing nations in the region, as well as all of the consuming nations globally. Ensuring continued access to those resources is extremely important for all of us.

It should not be surprising that when you come back to Sunni extremism, bin Laden and al-Zawahiri, and in the various places where you find Sunni extremists, they have made it very, very clear that they hope to disrupt the global economy as a means of achieving their goals. One of their primary tactics is the disruption of the global supply of energy flow which is why you see them trying to hit targets inside Saudi Arabia and trying to hit targets on the high seas.

From these imperatives, I think it suggests to us things that we have to do. I think it is absolutely imperative that we contest the rise of Sunni extremism and the terrorist cells in groups that spawn, wherever they appear, and we must do so aggressively or suffer the consequences.
Again, the key point to remember is that the vast majority of people in the region do not want these extremist groups to become mainstream. The key for us is to figure out how to help people help themselves against this evil ideology before it becomes a problem for us that makes it very, very difficult.

So active attack against these nodes and organisational centres where they appear and empowering people in the region to be more resilient against Sunni extremism, bin Ladenism if you will, is extraordinarily important.

We also need to figure out how to contain Iranian military power and expansionistic ambitions. Iran, at least is a nation state that in classic terms is able to be deterred and there is a clear understanding throughout the region that the growth of Iranian power is neither desired nor something that can be tolerated by the vast majority.

Again, you notice I said contain Iranian military power, I did not say destroy Iranian military power, although the means necessary to do that have to be available in order to deal with the problems that could move through miscalculation or whatever the case may be.

Regarding this point, we have got to move the peace process forward in the Arab–Israeli area as I have talked about, and certainly we have to continue to protect the flow of oil.

Now when you consider these four problems, these strategic imperatives and the suggested strategy for dealing with them, it is clear, or it should be clear, that it is beyond the power of the United States of America to move alone on all four fronts.

It requires a clear coalition of the willing approach to the problem and you can see that it requires not only a coalition of the willing, but it requires goodwill on the part of the nations in the region that have common interests. It requires goodwill on the part of nations internationally to move together in a way that allows us to shape the outcome in the Middle East so that extremism does not become the primary concern and that the flows of global resources are not disrupted.

As you think about these four problems, the one that is the most difficult for us to really get our arms around, is the rise of bin Ladenism. I mean, think about it. If you try to think of an enemy in terms of a capital city, armies, geography and so on, in Clausewitzian terms, it actually fails you in a description of dealing with this particular enemy.

Yet in today’s globalised society, you have to give this enemy the credit that it is due for having global reach and destructive power that if, God forbid, it should achieve a breakthrough in a weapon of mass destruction (WMD) either through its own scientific activity or more likely by acquiring a ‘loose nuke’ or a ‘loose’ chemical weapon on the global scene, it is a problem that we must all need to be extremely concerned about.

The rise of the non-state actor on the global stage is a problem that the United States of America and Australia and Great Britain, France and indeed all of the nations in the region, have to deal with in a very, very serious and straightforward way.
I think it will be much more likely to be the primary security threat that we have to face, than the rise of an aggressive nation state, at least in the next 20 to 50 years. That in itself is a controversial thing to say, but it does have implications for the way we organise, train and equip ourselves for the future, and it certainly needs to be taken into account.

One of the points I would like to make, not only is there the issue of WMD in this context of the non-state actor, but also the role of the Internet and the virtual space on the modern battlefield. While we may be able to dominate geographic parts of the battlefield, we have not been able to dominate the virtual space that this enemy uses asymmetrically in a very capable and a very dangerous way.

If you have not had the chance to go on to an al-Qaeda website, I urge you to do so, because you will find out by looking there—and by the way they are in English—that these websites give a clear, ideological direction for the movement and they also show you that on the virtual battlespace or in the virtual battlespace, the enemy trains, equips, organises, recruits, moves money around, and plans, all in an almost uncontested way.

There is a huge debate throughout our intelligence communities and our operational communities which I believe is a false debate, about whether or not we should contest that battlespace or just observe that battlespace. My view is that we need to do both and it is one of the issues that we have to figure out. Finally I would say that the non-state actor does not only apply to the model of Sunni extremism as it is developing in the region.

It is a global phenomenon, it is just not restricted to the Middle East, let us face it, it has manifested itself not far from your borders here. It has manifested itself in London; it has manifested itself in Morocco, in Spain. We could go on and on and list the various places, but we need to give them credit for doing what they say they will do.

They clearly want to expel American military power from the region so that they can gain a geographic foothold, because they believe that their ideology in the long term will prevail.

The other part that I think is important to understand is that non-state actors do not only appear on the Sunni side of the ledger, they also appear on the Shi’a side of the ledger and we see in both Iraq and in southern Lebanon, the rise of non-state actors, Muqtada al-Sadr’s group in Iraq, Hezbollah in Southern Lebanon.

The lesson of Hezbollah in Southern Lebanon should be a wake up call to everybody. Hezbollah showed a degree of competence, capability, tactics, techniques and procedures that have rarely been seen on the Arab side of the Arab–Israeli conflict and it needs to get all of our attention. We need to understand that a nation state supporting a non-state actor in that particular area of the world gives a chance for miscalculation that could be devastating for all of us.

I do not think it requires much of a leap for us to understand that given a series of unfortunate events in that region during the Israeli–Hezbollah conflict, that the conflict could have spread very widely and in a very destabilising fashion that would have been bad for all of us.
Now one of our most immediate tasks in the region is to stabilise Iraq. Again, to me the argument is how do we stabilise Iraq? It is not the tactic of the surge versus the tactic of leaving, it is how do we stabilise Iraq, that is where the argument needs to go.

We need to stabilise Afghanistan, we need to contain Iranian ambitions, we need to attack terrorist nodes, and we need to increase local capability to deal with the ideological threat.

We are engaged in the CENTCOM area of operations, we will be engaged there, it is not a matter of staying or leaving, it is a matter of figuring out how we can empower the people in the region to help themselves against these threats so that over time, the large number of our forces deployed in the region can be reduced while capability and numbers of forces, of local forces, increase to deal with border problems, WMD problems and other threats to regional security.

In many respects, this is not the war between Islam and the Western World, this is a war about globalisation; about modernising societies, dealing with traditional societies, about Sunni–Shi’a problems and so on. We need to be sophisticated in our understanding of how that works. Of course, throughout all this we have to protect the flow of oil. Now how do we do this? First and foremost, I believe we must internationalise the problem. It cannot only fall upon the shoulders of the United States of America.

I can only say, with a great degree of pride, how much the association with the Australian Defence Forces in the region, with naval forces and air forces in the Persian Gulf, with ground forces in Afghanistan and Iraq, has meant to our ability to get at the problems of the region. As I said before, the problems in the region are too big for the United States to deal with alone. It needs to be a cooperative activity between our friends and allies internationally and the people of the region that move against these particular problems—internationalise the effort.

We need to share intelligence much more effectively than we do up to this point. This war is more about intelligence than it is about operational expertise. We have been fighting this enemy now for well over five years. We have yet to lose a single battle at the platoon level and below, so it is not a matter of military dominance. We dominate the battlefield militarily.

It is a matter of intelligence dominance so that we can effectively target the right nodes and at the same time, bring to bear the other areas of national power and international power, diplomatic, economic and political activity to bring the enemy to a much more vulnerable position.

Intelligence sharing is not only important within the international context and it must be enabled much more effectively, it is also important that we figure out how to do it in a national context.

In our own system in the United States, there are more doors, walls and problems associated with intelligence sharing within our own bureaucracy than you might want to imagine and we have got to figure out how to have that flow of intelligence moved within the intelligence community much more efficiently and effectively.
Finally, we have got to figure out how to fuse operational and intelligence action in a way that shortens the cycle from information arriving at the shooter, to the shooter dealing with the target, to the target then being analysed and the information given back to the intelligence people. It really requires a new way of approaching the battlefield that we all need to pay attention to.

We talked about internationalising the effort, intelligence sharing and intelligence—operational fusion. The next I would give you is making indigenous forces the primary military actor on the battlefield.

It is absolutely essential that over time, Iraqi military forces deal with the insurgency in Iraq; Afghan military forces deal with the insurgency in Afghanistan. All of these—all of the reasons for that I think are very, very well known and understood by this audience.

But we need to understand that throwing more of our power and assets against the problem militarily, without increasing our capability to deal with helping indigenous forces to ultimately take over the responsibility over time is not a strategy that will lead to success.

Infrastructures need to be protected, hardened, analysed and understood, primarily because the Sunni extremist and the Shi'a extremist both want to target the infrastructure in order to break our will, to force us out of the region.

It is very, very clear that Ayman al-Zawahiri in all of his many writings does not expect to beat us militarily, but he does expect to beat us through destroying our willpower, by causing us to withdraw from the region and to allow his ideology to become ascendant.

But key in all of this, is protecting the infrastructure so that we can deal with a series of shocks that can develop easily in this great globalised economy of ours and be able to repair the problem when it does occur and continue on with the important work of keeping the global economy functioning.

Then finally and most problematic from my point of view, is figuring out how to tell our people, your people, the people of the region, just what this war is about. The information battle, one which the enemy feels they are doing fairly well in and one which I feel we are not doing very well in, is a point that all of us need to consider.

It cannot just be about talking to the press. It needs to be about explaining how you see the battle, what is going on, how we need to approach it and to have a lively debate, but on the other hand, also understand the enemy.

It used to be very interesting to me as I testified before Congress, about how many of the questions were based upon the assumption that every problem in the region had absolutely nothing to do with the enemy.

The truth of the matter is there is a thinking enemy out there that is trying to unhinge our efforts and we need to give them credit that they have a strategic way ahead and make sure we understand what they are trying to achieve.
If we had read and paid attention to Adolf Hitler’s *Mein Kampf* in the late 1920s, we would have clearly understood that we needed to confront that ideology in the early 1930s. Well, the same thing is true about bin Laden and his ideology today.

It is all written out there for us to understand and comprehend and it is also very, very clear that to confront the ideology today could save us one of our worst nightmares tomorrow.

The final thing I would say is that we absolutely positively must reform our national security structures, both internationally and nationally, to deal with the problems of the 21st century.

We are dealing with a non-state phenomenon with a national security structure that is designed to deal with state actors. We are dealing with an enemy that uses the virtual world in a way that we have yet to come to grips with and is very, very effective.

We are dealing with asymmetric warfare and combat in ways that we have not fully comprehended and we certainly need to make sure that these barriers to action, these bureaucratic barriers to action that currently exist, especially in the United States, are broken down, reformed and made more agile for the national security challenges that will take all of us through the rest of the 21st century.

Now having said all this, I remain incredibly confident that the problems in the region, with the help of the peoples in the region, can be dealt with rationally, effectively and in a way that will give great hope for the 21st century.

*John P. Abizaid retired from the United States Army after 34 years, during which he rose from an infantry platoon leader to become the youngest four-star general in the Army and the longest-serving commander of United States Central Command. During a distinguished and varied career he commanded at every level, with unique and challenging assignments ranging from infantry combat to delicate international negotiations. He studied and often served in the Middle East, and is widely considered to be an expert in the field of Middle Eastern affairs.*

*As the Combatant Commander of United States Central Command, he was responsible for military strategy and joint operations in the Middle East, the Horn of Africa, and Central Asia. Serving 54 months in combat zones both as Deputy Commander (Forward), and as the Combatant Commander, he led simultaneous international coalitions that operated in Iraq, Afghanistan, the Horn of Africa, and the Persian Gulf. He worked to advance enhancement of regional military, counter-terrorist and counter-insurgency capabilities in order to help the nations of the region help themselves against the many threats to stability they face.*

*At the same time, he was responsible for all military operations and activities in 27 nations in the Arabian Peninsula and the Middle East, the Horn of Africa, and Central Asia, which included protection of the sea lanes in the Red Sea and the Persian Gulf, operations against piracy in the Arabian Sea, and support of countries throughout the region such as Yemen, UAE, Bahrain, Qatar, Oman, Saudi Arabia and Pakistan. Concurrently, he oversaw humanitarian operations such as relief for earthquake victims in Iran and Pakistan, and evacuation of American citizens from Lebanon prior to and during the Israeli–Hezbollah border conflict in 2006.*
Transformation Requirements to Meet Emerging Trends

Mr Terry J. Pudas, Deputy Assistant Secretary of Defense (Acting), Forces Transformation and Resources, US Department of Defense

I would like to talk to you about a subject, which of course, I am very passionate about which is transformation. I began this journey about five and a half years ago when we set up the original Office of Force Transformation.

At that time we reported directly to the Secretary and most recently in the last several months we have realigned within the mainstream building to more closely align with the processes that actually implement change.

People used to ask me ‘well, what is it that you do that’s different from the rest of the Department of Defense’ and I would answer it this way; ‘I would say we operate at the intersection of unarticulated needs and non-consensual change’. And if you have been in a large organisation you know that that is where no one wants you to be.

Who else thinks it is a good idea, where is the requirement, why are you guys doing this? But that was our charter from the Secretary; To do what we used to call Lewis and Clarking—go out there and look—look for things, some creative ways of doing things and thinking differently about the future.

So what I want to do is share some of the thinking with you. We will start at some of the larger strategic levels and work our way down into some of the specifics.

When we talk about transformation we really talk about it first and foremost in terms of strategy. We define strategy as choosing a competitive space and then creating the processes, the organisations, the policies and the capabilities, that influence, the scope, and pace and intensity of the competition within that space.

So in a sense it is very much about having upstream influence on the future security environment. Doing things deliberately to create the future that we would all like.

It is very much like an industry model. No one in industry is happy about chasing the emerging market. What you would really rather do is create the next market.

So let us settle up on some terminology here. This is our concept of transformation. Clearly it is a continuing process; five years ago you did not hear that. All the great implementers in the Department of Defense would say just tell us what we are transforming to and then we can get that done and then we can move on to the next thing. But you do not hear that any more.
There are still a great many people who look at it strictly through the lens of technology; clearly it is much broader than that. Max Boot (pages 13–24) touched on that in his presentation. It is about looking at different processes, organisations, capabilities and then looking at technological opportunities.

It is about creating new competitive areas; those things that become the basis of your competitive advantage. For us in the office it has to be a difference in kind rather than a difference in degree. Those things that make it more accurate, cheaper, higher, dive deeper—all of those things are great things to pursue, but we want to look for the new game with the new rules.

So what are some of those? Of course a great example from the past was when the army said we want to own the night. A great transformational initiative, which focused resources in that area. I think if you ask anybody in the US Army today they would actually say that they prefer to do things at night.

Looking at fundamental shifts and underlying principles, we have coined this term called ‘demassification’—the ability to substitute information for mass without sacrificing combat effectiveness. And there are many, many examples of that in the force today; one of the starkest of course is in air forces.

I think in World War II it was over 200 sorties per target; in Vietnam it was about 50, Desert Storm one or two and now of course it is targets per sortie and we have done that simply by increasing the overall information component of the system.

New sources of power. This one was also referred to earlier but when we decided to compete on the basis of precise navigation and timing the result of that was GPS. It not only changed the nature of the battlefield, but of course it changed the world.

But everyone at this seminar knows of course that the fundamental source of your competitive advantage is really your people and so we spend a great deal of time thinking about culture—how do you develop a culture of innovation to sustain this notion of transformation?

There is a great quote by a famous US CEO that talks about your fundamental advantage coming from creating an organisation that is capable of out-learning the competition and then turning that learning into action.

Okay so why are we doing this? In the US there was a great big question; why do we need to transform? You are an outfit that gets $500 billion a year; you have a very capable military so why do you need to transform?

Well clearly the world has changed. This was driven home dramatically in the US by the events of 9/11. We had always been a country that felt very comfortable with good neighbours to the north and south and big oceans to the east and west and everything happened some place else. Well that is no longer the case and if you have visited the US since 9/11 you will notice there is a significant amount of change. We have a broadened threat context where we not only worry about nation states, but the perverse actions of individuals.
Also the barriers to competition are falling in certain areas where we have previously enjoyed an enormous competitive advantage. By virtue of the fact that information technology and computing power has become a free good around the world, lots of other people are able to compete with you that could not do so before.

Computing power that enables nano-technology, robotics, energetics, CAD design—all of those things are lowering the barriers to competition. But the real compelling issue is; if you are in a competition—whether it is in a global security environment or an industry—and you are not doing this kind of activity you are essentially a strategic fixed target. There are lots of examples of that in nations’ histories as well as in industry.

So what are some of the elements of our strategy? Clearly transforming from the industrial age to the information age we talk about network-centric operations.

We believe it is prudent in times of uncertainty to think in terms of a breadth of capabilities as opposed to depth. We know that the only thing for certain in trying to predict the future is that we will be wrong. Okay so it is prudent to have a breadth of capabilities and then create some agility within your systems to allow you to respond and react as the future becomes more clear.

Clearly we cannot live with programs of records that are measured in decades any longer and we brought that upon ourselves quite frankly.

And a lot of it has to do with the way we manage risk. We tend to manage risk with time; to the extent we do that it aggravates the other three parts of the risk equation, which is cost, schedule and market. So we produce a world class something, over cost, behind schedule and lo and behold there is no market for it anymore because now we can do things differently and the world has changed.

You have probably all read the big debates about Crusader, Comanche, DD21—those are all examples of this particular phenomenon and it is not necessarily about spending more money. It is about making choices about capabilities that make you both competent in the information age and relevant to the future security environment.

So let me jump up here and take a 30,000-foot view and talk to you a little bit about the way we have looked at the future security environment (see Figure 1, Global Trends, page 36).

There is no geography on this map; some of you may have seen this before, I use it a lot. This is simply a capture of the electronic spectrum at some point in time—communication if you will (the many red dots). This is where the majority of the world’s wet cargo flows. The larger blue dots are the 16 largest container ports to which the majority of the world’s dry cargo flows and when I made this, the black lines are where the undersea fibre was laid.

So this is an information age view of the world in a highly globalised interdependent and brittle context and it has significant implications to the way we think about our future security challenges and the kinds of capabilities that we might want to have at hand.
Many of you have probably read Dr Tom Barnett’s book *The Pentagon’s New Map*. Figure 2 (page 37) is an attempt to capture the whole book. Tom was actually a member of our staff the first year and we asked him to look at the global security environment through a different lens and the lens that he chose was globalisation.

He mapped US military responses during a 12-year period. Around the world those are the kinds of things that we were doing in that particular area. He then drew a very rudimentary map around it; it is somewhat imperfect, but it shows the picture.

This is the area of the world that is the least connected to the larger globalised economy, either by choice or because they are unable to develop an economic baseline.

Tom went on further to make some observations. Of the 118 poorest countries listed by the World Bank 109 of them are here. Of the 50 countries with the lowest life expectancy 49 of them are here; essentially the 12 million refugees that leave their country each year all come from this particular area.

Of the 36 terrorist organisations listed by our Department of State, 31 operate in or from there and of the 23 largest drug producing nations 19 of them are there.
Tom goes on further to argue that this forms one of the elements of thinking about a larger grand strategy where we move from this notion of containment, which my generation of course was very familiar with, very straight forward, to one which he calls connectedness.

What are the kinds of things that we might do deliberately to help connect that part of the globe to the larger globalised economy for the betterment of the people who live there and perhaps there would be less tolerance for those things that would disrupt that?

Now let us look at the overall security environment (Figure 3, Security Environment, page 38). Tom argues that we move from this notion of security equals defence or the Department of Defense to security equals defence, plus all else. And that is all other strategic partners and allies, other agencies of government as well as non-governmental organisations.

As you move up the vertical axis we talk about competency; how well are we being competent for the information age? I think we are doing quite well there.

But along the horizontal axis is where the big debate is. What are the kinds of things you need to be able to do to be relevant to the future security environment?

**Figure 2: Globalisation III**

So there is every expectation that we will be called upon to conduct some sorts of operations within that particular area and they may not all be high end, high kinetic kinds of chores.
Many of you may have seen this, but this is a version of our future security challenges as articulated by our Quadrennial Defence Review. We are very, very comfortable in the lower left-hand quadrant; we spend a great deal of time there both intellectually and resource-wise and we feel pretty good about that one.

But the reality is, there is a dynamic and that is as you create more and more overmatching capability for traditional challenges what happens to the competition? Okay the competition moves to the more complex terrain, the other three quadrants and that is essentially part of what we are experiencing today.

So the challenge is how do you balance your capabilities across those four challenges? What does that mean in terms of strategic capabilities? If we want to be more preventative and less punitive clearly we have to have unambiguous warning earlier. We would like to have more special operations-like kinds of capabilities. Clearly you want to operate with speed because of the path dependencies of these kinds of operations.

Interoperability and interdependence of course go without saying and how we think about coping with things that we call systems perturbations. We are so globalised and interdependent and brittle that relatively minor events could have significant consequences for us.

February 2003 is when the SARS super-spreader event happened. A relatively minor event for those of us in the US who are halfway around the world, but as a result of that we had two major airlines on the brink of bankruptcy and the tourist industry in Canada took a nosedive. So that is how interdependent and brittle we have become.
This notion of the super-empowered individual is really quite troublesome. We already know that people are willing to strap a vest of dynamite to themselves, get on a bus or go to a hotel or a restaurant and wreak havoc, so we should not be surprised if someone is willing to infect themselves with some bio-engineered disease, get on an aeroplane and fly to some population centre. And that is really sobering.

It is not as easy as it sounds right now, but unfortunately those are the kinds of things that we are forced to think about.

Figure 4 shows Terry Pudas’ observations after watching the Department over the last five years. Thinking has changed significantly from the left to the right. This is my list and we can debate this obviously or we can add or have a discussion about it, but these are sort of the big shifts that I have observed over the last five years.

I wanted to talk about culture a little bit. Culture is key obviously. Language conveys culture and so the words that we use say a great deal about who we are. This is built from a US perspective obviously. We actually took this graphic to Secretary Rumsfeld several years ago and there was a great dialogue surrounding it.

At Lexington and Concord, we referred to ourselves as citizen soldiers. From 1973 we were all recruited as a volunteer force. Most people in the American Military now refer to themselves as the professional military. Out of Vietnam we used the term ‘warrior’—more recently ‘enforcer’—no one uses the term ‘systems administrator’.
But if you look at what we are doing—as showed by Tom Barnett—a lot of what we are doing is keeping things up and running and that requires a different way of thinking and perhaps some different capabilities and some different relationships—a systems administrator role.

So we move from left to right, from projecting power to exporting security; it is more of a continuous effort, it is more preventative. Clearly we have to think in terms of political victory because the reality is to achieve your policy goals is not only a function of your military power, but of your moral principle.

To the extent that you do not have capabilities to underpin the moral principle side of the policy equation, you will have a difficult time.

So let me give you one example of that. This is the way we typically thought about military operations; extended planning phase, we would deploy the force, we would build it up, we would build up the supply mountain and then we would conduct a major combat operations phase and then we would trail off into something we would call 'stability and reconstruction'.

But this is what happened. That was three weeks long and then we had this big gap and what were we all reading about? Why is all the chaos going on in this theatre? Why are museums being looted? What is going on there? Because we did not anticipate the speed at which operations were going to happen and quite frankly we did not have a robust stability and reconstruction capability in place.

So a great deal of debate has gone on over the last several years. This resulted in the Directive 3000.5 Security, Stability, Transition and Reconstruction. From my perspective this was a watershed event for the Department.

Four years ago I was speaking to a group of army officers and I happened to use the term constabulary capability and I got chased out of the room because ‘we don’t do that’; ‘that is not what we do’.

But the reality is, the nation is not going to allow $500 billion worth of capability to sit on the sideline when there is something happening like an earthquake in Pakistan, a tsunami, our own experience with Hurricane Katrina, and what are going to be our responsibilities if there is a potential pandemic?

So this essentially declared that these kinds of capabilities are of equal priority to those combat capabilities and people are working very hard trying to figure out how to translate this directive into capability ‘things’, organisations, processes and relationships across government and with others.

Let me share with you some methodology that we use in the office to try to gain some glimpses into the future. This is very simple; in Figure 5, the red line is transaction rates and the blue line is resources. So as transaction rates begin to rise good managers of course apply best business practices and management efficiencies.
At some point you have to go to the boss and ask for more resources, but when you get to about time (t2) that is when you recognise that you are not going to solve this problem with management efficiencies or more resources. This is the point at which you recognise that there is going to be some new rules that govern this particular transaction, and that is what we call anticipating the ‘perfectly predictable surprise’.

So I can give you some examples from my perspective in the US. In the 1930s and 1940s telephones were very popular; every call was operator assisted. It soon became clear we were never going to create enough telephone operators to solve the problem so there was a new rule and the new rule was we all became telephone operators.

I do not know how it is in Australia, but there are not very many people in the US any more who go to the bank and stand in line at the teller window to do their transactions; they go online, pay their bills, they go to the ATM to draw out money.

Most people are their own travel agents, they book their travel online, they print out their boarding pass, they check in their luggage at the kiosk.

And if there are toll roads like in the Eastern United States everybody has Easy Pass. These are all examples of transaction rate phenomena that indicate new rules.
So if I were to apply this to the Department of Defense, it might look something like Figure 6 and this is some work done from the Centre for Naval Analysis. It shows crisis response days or transaction rates. It is just a projection so we could have an argument about that. But even if it is close to being correct we are not going to solve that problem by boosting up the defence budget. There are going to be some new rules that govern this particular phenomenon, some of which I listed on the left.

The civil component of national security is also pretty interesting. There has been a lot written in the US recently about what are all the contractors doing on the battlefield. I would argue that that is a perfectly predictable surprise, that that trajectory is not going to be reversed and so it is our job to try to understand that. Turn this inevitability into a virtue and move on.

Figure 7 (opposite page) is data from our intelligence community; this steep line is our ability to collect information around the world. The bottom line is our ability to analyse it using the normal methodology. So I argue that we are not going to create enough intelligence analysts to solve this particular problem so there is going to be some new rules that govern this particular transaction rate.

I would bet if I went to the Ready Room and watched the aviators planning for their mission they would be at a computer, they would be plotting their flight route, their aim points, the threat envelope, the return to force profile—all of those things that when I flew only the...
An intelligence analyst would have done and handed me the finished target package. So this is an example of transaction rates.

Just briefly on network-centric operations. In about 1997 my former boss trotted out this notion of network-centric operations and this was the response. Less network-centric warfare, more rounds on target admiral! But that is not what you hear anymore. People have pretty much embraced this particular concept whether they use different terminology or not and now the big work is how do we implement this? Network-centric warfare is about creating an information advantage and turning it into a competitive advantage.

There are two parts to this. There is network the noun which is the architecture and network the verb which is the behaviour you get by virtue of being in a network environment and that is the really big piece to this.

Quite frankly we have had commanders come through the office and tell us that they have had to fundamentally re-look at (review) their philosophy of command because of the horizontal sharing of information that can go on in a networked organisation.

The commander who barks out the orders—‘there’ll be no chat rooms’—probably does not understand the leverage that he has by using the network. Commanders now want to command different things; commanders want to command bandwidth, which is very interesting.
That used to be a back office function—it is now moved to the front office because of the power. You hear different language; we no longer talk about ‘de-confliction’ and ‘coordination’, we talk about ‘collaboration’, which is a whole different thing and means something entirely different.

We talk about ‘information superiority’; this is our construct. It is about accuracy, timeliness and relevance. Our information needs and our ability to satisfy our needs and an opponent’s needs and their ability to satisfy their needs. So there is a competition here that is going on and there are some very deliberate things that you can do to influence that particular competition.

Information superiority has allowed the army to move to a different doctrine, one that is actually pretty powerful. In the operations manual from 2001, we have this tactic of movement to contact. And I always ask why would you ever want to do that, but that was the doctrine.

Now we have this new publication, we have the new Striker Brigade, the brigade combat team and you can see that we have a whole different construct. This notion of seeing first, understanding first, acting first and finishing decisively.

This has allowed the army to do something that they could not do before and so this is a really big deal. At some point you have to go to the people who hand out money and they ask you this really awkward question and that is—what is the return on investment?

And so you have to move beyond PowerPoint to real data; we have done a number of case studies to try to get at the outcome or output of this networking. This is just one of the studies we did; the First Striker Brigade in its certification exercise before it deployed to Iraq.

The findings are interesting; enemy casualty exchange ratios changed by an order of magnitude. It used to be 10 blue for every one red and more recently it was one to one; that is clearly not where you want to be, but a significant change.

Shared awareness went from 10 to 80 per cent; decision cycles went from 24 to three hours and it was the only unit to go through this particular scenario that was able to clear all the buildings and retain enough combat power to repel a counterattack.

And so that is real return on investment and we have a number of these case studies that we have done in the different domains of warfare, many of which are available on our website.

I talked a little bit about learning rate. I think that is one of the fundamental transformation metrics. We used to think about information where we would collect it all at headquarters and we would make it as rich and as accurate as we could. We would disseminate to the force and take action on it.

And now we have this phenomenon of networking and reach where information is shared back and forth, value is added. At some point this becomes the source of your competitive advantage. This is the chat room.

I do not know how many of you are familiar with the company commander.com site? This was a group of company commanders several years ago that were dissatisfied with the way
information was being shared. So they took it upon themselves to create their own blog to facilitate increasing their learning and to the US Army’s credit they took that blog and of course put it into a more secure environment. It was a very, very powerful concept.

So I argue that the job of senior leaders then is to facilitate this sort of interaction, make it go as fast as you can and then your job is to keep your eye on the learning objectives.

Next, we looked at these competing networks through the improvised explosive device (IED) problem and tried to make sense of what was going on there using this notion of being able to out-learn your competition.

When we began, we talked about the notion of decapitation—you just get rid of the leader and then everything will be good. But clearly our experience has shown that that construct in fighting networks clearly does not work.

Then we went to how do we interrupt the cycle? The financial cycle, the builder, the deliverer, the explode cycle; and people are working very, very hard at that.

But our research has shown that we are not necessarily ahead in the learning rate. They do not have the impediments that we do; they do not have to go through operational test and evaluation before something gets fielded and so it is very, very difficult to get inside this learning rate business.

Figure 8 contains some data that we put together. These are different units as they rotated through theatre. I took the names off because it is really not important and the vertical axis is their success rate against IED events.

![Graph of Learning Rate](image)

**Figure 8:** Learning Rate.
And so you can see that the overall trend is really, really good and we are very happy about that. But if you look at this a little closer it is kind of troublesome. Okay why is it when we rotate through theatre, we suffer a decrement in our ability to deal with IED events?

So that caused us then to look at things like lessons learned or how we rotate. One of the great lessons for the US after the experience of Vietnam was that we no longer were going to rotate individuals into theatre to different units. We were going to do whole unit rotations because of this notion of ‘unit cohesion’. Very powerful.

Is that still true in the kind of war that we are fighting today?

I believe that non-lethal or the less than-lethal kind of capabilities will have great utility in the future. Right now we give our folks the very best binary solutions we can give them; we put them in very difficult and complex environments, very complicated rules of engagement and then they have two choices. They either accept enormous risk or they suffer the unintended consequences such as the unfortunate incident with the Italian journalist (who was accidentally shot by US forces, Ed.), which undermines the moral principle side of the equation.

And so I believe we have an obligation to look at non-lethal capability seriously. I am not trying to wave away the complications, both policy and cultural with this; this is a really big deal.

I would tell you from my perspective that physics is outpacing our thinking with regard to policy on many of these things. Whenever I advocate non-lethals, usually there is a lawyer that raises a hand and says, but you are a party to all these conventions and treaties and you cannot possibly pursue these kinds of things.

And I usually answer that the people who filled the ambulance full of dynamite and committed the perfidious act of driving into Red Cross Headquarters in Baghdad were not a party to any of these conventions or treaties and so the world has changed.

Obviously there is a huge cultural element in this. As soon as you give soldiers more than binary solutions, the fear is we are going to have an inquisition every time there is an empty shell casing, to determine proportional response. I suggest that it is time for us to start thinking about this in a serious way.

Directed energy is going to be, in my estimation, an enormously disruptive capability when it appears on the battlefield. If you are following this technology you know that it is no longer fairy dust. There is real ‘stuff’ out there.

When I used to fly at Mach 1 over the battlefield, 1100 feet per second I used to feel pretty good about that. But if you are being shot at by something going 186,000 miles per second you are a fixed target and that changes everything.

There is also a relationship between networking the force and speed, that is, the ability to create all this actionable information and then be able to align your mobility to that. So right now I believe we are a little bit out of balance because of a number of things.
Down at the bottom—the people piece is, we are working very hard. We have created transformation academic chairs at all Department of Defense institutions. The most powerful part of that is they come together and they collaborate once a quarter; they talk and have conversations that they would not normally have.

Here are some of the things that we have actually created—some tangibles. And the idea here was not to create programs of record; the idea was to create surrogates of capabilities, to develop concepts, explore what requirements might look like, to facilitate learning and jump-start perhaps the acquisition process.

We talked about falling barriers to competition. They are very significant in space so how do we create an alternative business model for space?

We call it operational response in space and that is the ability to put a capability in orbit within the planning time constraints of a major contingency—something we cannot do right now—and to do it at low cost and to be responsive.

Right now we have these large constellations—they are very expensive—but we already know that they are vulnerable, so this is an initiative that we are doing.

The reality is that there has been about 30 to 35 small satellites launched around the world in the last three or four years with few from the United States.

So the competition and basis of competition is beginning to change and if you are following this particular capability you will know that there are lots of people joining the space game.

Redirected energy—if directed energy is exciting then redirected energy is really exciting. Imagine an actual airborne relay mirror system. This has been demonstrated, it allows you to bring a laser source to theatre in a number of ways, put it through the receiver lens, out through the transmitter lens then down to some object of interest.

And if you follow this technology you know it is also a potential communications device so it has great potential.

There is a problem here. We have spent so much effort in networking the force, but we are not able to get our return on investment because we have not paid attention to the logistics anchor that is hanging around our neck.

So we are forced into situations like this and a lot of people are working hard on the logistics piece, but I argue not hard enough.

We have what we call the strategic approach to cost; that is how can you do things that decrease your operational costs? Most of you know if you have been to the US that we are not very sensitive regarding energy. It will always be there and the gas station will be there and the tank will be full.

Seventy per cent of what our army lifts into theatre is fuel. About 50 per cent goes for support.
$3.2 billion for 60,000 people to move fuel. Of the 10 biggest gas guzzlers on the battlefield only two of them shoot something, the rest haul equipment and personnel around.

We could never get the operators’ attention on this because the operators would say we are not built to be efficient, we are built to be effective and we are not going to trade key performance parameters in efficiency away from capability.

But now you see reports coming out of the field that are asking for alternative fuels, a way to be more efficient because it is having an effectiveness impact on the force.

So how do you do things that impose a cost to an adversary? This is very important to think about strategically. How do you prevent an adversary from imposing a cost on you? My beloved navy has finally decided they want to operate in the littoral and so they have embarked on things like littoral combat ships and Riverine and other things.

I think the last time I counted there was at least 80 countries that possessed anti-ship cruise missiles, the cost of which are going down and the cost of a defensive capability is going up, so how do you get on the right side of the cost technology curve?

Let me finish up here by talking about acquisition processes and where I think we need to go. Figure 9 shows some technology cycle times. The ones highlighted there are the ones where all the exciting stuff has come out very, very quickly running in cycles of six months to one to three years.

**Figure 9: Technology Trends and Cycles.**
We do not have processes in our Department of Defense to accommodate those, so the poor program manager gets accused of requirements cost overrun, all of those things because of that particular phenomena and of course the way we buy things.

Normally what we will do is create a requirement. We will award a contract to some prime company, they will build some very high-end platform and then create applications in modules and then where it says ‘integration’ is where we spend all our money. For the most part, it is proprietary integration and it locks you into a business model, which is problematic.

I think in 2005 the US Department of Defense spent about $27 billion on integration which is an enormous amount of money and that prevents us from leveraging those technology cycle times, which are so important.

But there is some good news here also. There are a couple of consortiums that have stood up to get at this particular problem. One of them is called the Network-Centric Operations Industry Consortium which is an international consortium of over a hundred companies; all the big contractors are members.

They are trying to develop some standard interfaces and protocols so that we can move to this notion of ‘mass customisation’, which is an information age business model. Lots of other sectors of industry have done this; the auto industry has done this. They have opened up their designs to one another.

I was told that there are 700 configurations of the Ford Explorer in the US, unlike the one black Model T. So there are other ways to do this and so that is being pursued and that is a good thing.

Finally let me leave you with some alternative metrics. One of the things we always want to do of course is re-examine the metrics we are using. What are the kinds of things we can do to facilitate higher learning rates? What can we do to achieve higher transaction rates?

We want to be able to create and preserve options for ourselves and by doing so, you create an enormous amount of complexity for anyone who is trying to compete with you.

If you are familiar with Dell Computer in the United States this is somewhat like Michael Dell’s business model. Every time you go online there is an entire new line of products, there are no large production runs. The organisation is learning very rapidly. They are creating options for themselves and if you are trying to compete in that market it is extremely complex. This is what transformation is about.

Mr Terry J. Pudas has served as the Deputy Director, Force Transformation since October 2001.

He serves as advocate, focal point, and catalyst for Department of Defense transformation. The Office of Force Transformation provides recommendations for linking the Department’s transformation efforts to strategic functions, evaluates the transformation efforts of the
Military Departments, and promotes synergy by recommending steps to integrate ongoing transformation activities. Other responsibilities of the office include monitoring Service and Joint experimentation programs and making policy recommendations to the Secretary and Deputy Secretary of Defense.

He is a 1969 graduate of the University of Washington. In addition to his Bachelor of Science degree he holds a Master of Arts degree in National Security and Strategic Studies from the Naval War College and a Master of Arts degree in Management from Webster University.

He entered the Navy through the Aviation Officer Candidate School in Pensacola, Florida in 1969 and was designated a naval aviator in May 1971, served in numerous fighter squadrons, graduated from the Defense Language Institute in Monterey, California and served as an exchange pilot with the German Navy. He commanded at both the squadron and wing level. He served as Air Officer on board USS MIDWAY (CV-41) deployed to the Persian Gulf and conducted operations in support of Desert Shield and Desert Storm. Terry Pudas retired from the Navy in September 2001 with over 32 years of service after serving as the Deputy and Executive Assistant to the President of the Naval War College in Newport, Rhode Island.
Lessons Learned from Contemporary Operations

Lieutenant General Ken Gillespie, AO, DSC, CSM
Vice Chief of the Defence Force

My subject for this seminar is on lessons learned. It can be a dry subject, but it is absolutely vital and I hope as we step through this process you will see that I am not talking to you simply about doctrine, but I am talking to you about actually grasping lessons, sitting down and considering what they mean and building our future on that sound basis of learning.

You will also find as I go through the process that it is doctrinal in a lot of ways; it is about process and hopefully what you will get from what I am about to say is that we are trying very hard to turn doctrine and process into culture in a way that benefits our organisation.

Many of you are no doubt familiar with the philosopher George Santayana who once said; ‘Progress far from consisting of change depends on retentiveness.’ If you have not recalled that you will certainly recall the next phrase where he says; ‘Those who cannot remember the past are condemned to repeat it.’

In this rapidly changing world the ADF’s ability to turn hard-won operational experience into a competitive edge stands as one of our most important challenges.

I will highlight a number of key ADF lessons learned that we have gleaned from our recent operations, but I also intend to describe the process of how we learn, how we apply lessons to inform us about ongoing operations, but more importantly to inform the development of ADF future capability and to help us refresh and update our preparedness posture.

To set the scene I will begin briefly by describing the features of our contemporary operational environment. I will then highlight a small cross-section of significant lessons that we have learned under the broad headings of military thinking, whole-of-government, force design and force protection.

I will then describe how we apply lessons including some of the points on how we continue to strive to improve our lessons learned process and how we try to ensure that the doctrinal significance of the lessons learned is incorporated into our culture.

So let us take a very brief look at the environment in which we have been operating. Contemporary operations are characterised by seemingly endless, but connected layers of complexity. These layers have given rise to new household terms such as the ‘three-block war’, effects-based planning, whole-of-government, humanitarian operations and phase four operations and so on—new terms that we speak about on a day-to-day basis.
At the end of the 1990s the Commandant of the United States Marine Corps, General James Jones suggested that future wars would not be the son of Desert Storm, but rather the illegitimate child of Somalia and Rwanda and how true this has been.

Operations within or into failed or potentially failing states have been a repeating theme. This situation has required a fresh approach to military operations and planning to ensure we are able to deal with the challenges of non-state actors, internal power struggles, international politics and diplomacy, coalitions, humanitarian aid, non-government organisations, to concepts of security as opposed to defence and of course the media.

These challenges often have no clear boundaries or clear accountabilities and they often cause ambiguity around long-held military concepts of conventional war, terrorism, insurgency, peacekeeping and nation building.

As a consequence of this environment, the first significant lesson that impacts across almost all of what we do is the need to remain agile of thought and of learning. As never before we need to be open to fresh thought and outlook; we need to promote robust professional debate.

We need to be adept at planning and replanning and we need to understand the essentiality of ensuring the ongoing professional development of our senior military and Public Service officers. Now, for the ADF this is not just an academic lesson and we have modified our committees, our command groups and our command structures, along with their management and administrative processes to reflect this lesson learned.

While the employment of combat power remains the essential ingredient in all that we do it is about how we employ that power: that is, the balance and purpose of kinetic and non-kinetic effects and its impact on a range of asymmetric levers that does and will continue to challenge our profession and our results.

Adversaries will and most often do avoid massing in sufficient numbers to enable decisive engagements through our use of conventional force. That is not to say that our adversary cannot employ conventional force and as such we have learned that we always have to act and react with robust military capabilities and in strength.

Only in this way can we ensure that adversaries remain embroiled in the complexities of asymmetric effects and are not presented with a real opportunity to defeat our own force elements conventionally.

Our centre of gravity may often not so much be about the use of force, but our ability to influence and shape with the prospect of use of appropriate force. The trust and confidence of a nation’s people that the ADF, Defence, or Australia as a whole, has the ability to support and facilitate their peaceful self-determination can be what ultimately wins out on the day.

Creating a stable environment in East Timor from May and beyond in the lead up to recent elections was vitally important to our operational success. Bougainville, the Solomon Islands, Afghanistan and Iraq also add to this lesson and perhaps you could say that the eventually peaceful nature of the Fiji coup was perhaps greatly influenced by this centre of gravity consideration.
Isolated incidents at the tactical level can and very often do have strategic consequences. The speed at which news of a tactical incident can be passed by means other than our command and control systems continues to challenge us. This environment requires increasingly greater volumes of information to be passed rearward with correspondingly higher urgency.

This situation requires great trust to be developed between deployed forces and their higher headquarters. This trust is about an understanding that an insatiable demand for information is not about the application of the 12,000 kilometre long screwdriver; it is about ensuring that senior commanders along the chain of command have the necessary situational awareness and information at hand to be able to represent our troops and our junior commanders effectively in the fourth block of the three-block war. That is at home.

So that fourth block I am talking about is in our press, with our government and our general population and for the effective manipulation of those aforementioned asymmetric levers. This situation requires an even greater investment in the training of our young men and women.

Troops at all levels must have an innate understanding of the impact of their actions and what effect their actions can have at the highest level. They must know that we need greater clarity of detail in order to be able to support them in the way that they expect us to in this very challenging environment.

The message you should be seeking to hear is I believe that we have learned; I believe that we are applying lessons robustly and I believe that we are operating in a highly complex environment and that the way ahead is far from clear and that the eventual outcomes are as yet far from certain.

We in the Defence Organisation, therefore, are very comfortable with the evident need for highly robust internal debate by intelligent, contemporary and professionally developed senior officers and officials. And I could say here that I see us being in a paradigm whereby we really need to learn the lessons of 1914 to 1917 to make sure that we are as agile in our thinking and our thought and our academic processes as we need to be so as not to be locked into a similar paradigm 100 years later.

In this way we have an effective tool to enable agility in our force structure, our capability development, our engagement with our government and with our allies.

Now we still have some way to go, but we have surveyed the road to institutional agility and we are well into the preliminary earthworks.

But effects do not just involve the ADF. The complexity of recent operations have shown that there is a need for military effects to be integrated within a whole-of-government strategy. Indeed, in some cases the ADF role has been to act in support of law enforcement rather than leading the operation and we may well operate in support of humanitarian aid, fishing or border protection agencies and so on.

This requires us to develop new levels of cooperation and to develop a much broader understanding of multi-agency roles, tasks and processes.
A good example is our operations in the Solomon Islands and the ongoing work we are doing with the Australian Federal Police to ensure interoperability between our organisations and to reduce what have been apparent capability gaps; we are working in a very similar way with our national intelligence agencies and other organisations.

Understanding the political environment and the complexity of international law and international policy has perhaps always been important. But our review of lessons has seen us move routinely to the deployment of policy advisers to support deployed commanders. Policy advice and liaison has become an important enabler for commanders deployed into highly complex warfighting, peace enforcement and peacekeeping environments.

The need to rapidly develop new tactics, techniques and procedures and protective measures has been paramount. Our adversary is intelligent, ingenious and well funded. The routine deployment of scientifically-based operational analysis teams has become a feature of our more recent deployments. We have a long way to go with operational analysis, but the lesson—and maybe it is a lesson re-learned—is pretty clear to us all.

The nature of our operational environments has required us to maintain a flexible approach to force design. There have rarely been two deployed battle groups or task groups in recent times which have looked alike. This is inevitable when we structure them using effects-based planning and effects-based execution. The Chief of the Army used this lesson as a basis for his Hardening and Networking construct and its impacts are evident in our current and future joint operating concepts.

The impacts of this lesson place significant demands on our leaders and logisticians and it requires us to continue to develop the institutional agility that I have already discussed.

Another key lesson for us has been drawn from our coalition experiences—sometimes as lead, sometimes as a junior partner—and that lesson is to do with self-reliance and of the need to have sufficient capacity to support the efforts of other nations in an Australian-led coalition operation.

Interoperability is much more than standardising trailer couplings; it is about culture, politics, learning; it is about inspiration, aspiration and it is about capacity in its very broadest sense.

Our new understanding about operational centres of gravity and the frequent need to develop parallel lines of operation have led us to opt for forces that conduct operations in direct support of host nations and governments such as we see around the world at the present time; in Iraq, in Afghanistan, in East Timor, in the Solomon Islands—supporting sovereign nations.

The overriding expectation of our government and of our nation is that we will properly protect and equip our people and this has become a significant factor in operations and force design. As I said before, our adversary is clever, well financed and resourceful.

Threats do not remain static in nature or use, and new threats cannot be easily predicted and they appear with little or no warning. This is particularly the case in the Middle East area of operations where improvised explosive devices are the insurgents’ weapon of choice and insurgent TTPs—tactics, techniques and procedures—can vary from suburb to suburb in a single locality.
Apart from a wide range of countermeasures including intelligence and scientific analysis that I will not discuss here, we have learned that extensive training during mission rehearsal exercises, force preparation, and reception and staging in theatre has been very successful and we have instituted a robust process of rapid acquisition into the Defence Organisation.

We have applied rapid acquisition many times over the last several months to ensure that our equipment is appropriately modernised, adapted or indeed replaced as the environment has changed.

I believe that this has been one of our strengths; it has been one of the pointers to the fact that we are developing some institutional agility and I have no doubt at all that our troops are amongst the best equipped and best prepared forces in the world, and I do not see any reason for that to change.

I have covered very briefly what I think is a good cross-section of key lessons and hopefully given you some food for thought. I would now like to describe how the ADF learns and applies lessons from operations and the work that we are doing to utilise a process to create enhancements to capability and preparedness.

I mentioned earlier that this is not just about doctrine and process, it is about culture and in every way that we can, we have changed the way that we do our day-to-day business to bring lessons into our culture. We do this in our daily reporting. Lessons learned are a feature in our situational reports from all Joint Task Forces.

We start each process of providing concepts for new operations, potential operations, contingencies where the very first thing that we do is a document search and a review of our 'lessons learned' databases. And then, when we present concepts to the CDF and to other commanders, we start our concept preparation with 'this is what we learned last time we did something similar to this'.

Throughout our presentation of concepts, we will have clear indicators that something has been included in the concept because of a lesson that we gleaned from the past operation.

So it is about culture and I just want to tell you that I am not here talking about policy and doctrine, that we are actually talking about real change and ways that we are doing it in a practical sense that causes people to make sure that we do not forget our past.

Now the ADF aspires to be a learning organisation through its application of the lessons learned system. A learning organisation depends upon the implementation of a continuous cycle where lessons derived from past experiences contribute to the planning for future activities. The loop strategy underpins not only the operational level of our organisation, but also the strategic level of capability and of our defence preparedness and management processes.

Knowledge gained by the organisation over the past eight years exists in the ADF Activities Analysis Database System or ADFAADS and this knowledge is routinely used to create inputs to capability requirement development, and to authenticate the basis of our preparedness assessments.

ADFAADS is an established Australian Defence Organisation-wide system employed to facilitate evaluation of military effect. Knowledge capital or evaluation outcomes comprise lessons learned issues arising, proposed resolutions and a summary—and an executive summary.
Leveraging knowledge is achieved through dissemination, assessment and gap analysis. Dissemination is via the ADF Virtual Office comprising the ADFAAD System and the Defence Secret Network on which it resides.

It provides an integrated, accessible and transparent knowledge management and staffing tool. It facilitates the efficient conduct of ADF business directly related to operational output at the strategic, operational and tactical levels.

Assessment of the level of preparedness is based on the Australian Joint Essential Task List and their conditions, standards and measures.

Gap analysis is achieved by evaluation of outcomes being compared to the required capability to determine the gap between military effect and the capability required to achieve it.

Knowledge implementation requires individuals and organisations actually applying the evaluation outcomes in order to enhance capability and preparedness. In other words applying lessons learned to resolve issues.

Now evaluation provides a feed through the leveraging of knowledge in ADFAADS from the force in being into the capability development process for our future force.

One of the great strengths of our organisation is the quality of our workforce and the agility of thought and action of our young people.

Now like all organisations the PowerPoint slide and the policy guidance are easy to deliver. Implementation is a far more difficult challenge. Our aspirations are sound, our intent is unmistakable and very real progress is being made, but we still have some way to go before aspiration and capability are aligned.

But we are working hard at understanding and describing our future lessons learned system and we understand that we need to build on the existing systems, but we do not need to reinvent them.

The Australian Defence Organisation has developed a ‘lessons learned’ and ‘knowledge management’ roadmap to guide the way ahead. The roadmap’s aim is to better capture, analyse, decide and implement lessons learned by enhancing policy, our staff procedures, by enhancing the training of our people, by compliance, by making sure that we still work and adhere to our doctrine, that we develop software operating systems et cetera.

But more importantly that we develop a culture that ensures this cycle of evaluation and incorporating lessons into what we do becomes an innate part of the ADF’s culture.

I have highlighted a cross-section of the key ADF lessons learned, I have spoken about our contemporary operations’ environment, I have described the processes that we are using to capture lessons learned and how we apply them.

And I have highlighted our clear intent to continually search for ways to enhance our capacity to do this more effectively; and finally, I have indicated that we are working very hard to do this.
The ADF of the Future

Air Chief Marshal Angus Houston, AO, AFC, Chief of the Defence Force

It is my intention to speak on the topic of ‘The ADF of the Future’. However, before looking at the future, I would like to begin my remarks with some commentary on ‘The ADF of the Present’.

The ADF of the present

The Australian Defence Force (ADF) stands in defence of Australia and our national interests. Our work is serious and difficult, and far too often, arduous and dangerous.

We are called upon to perform diverse, challenging tasks in fulfilling our mission—some very close to home and others further afield. The world in which we operate is complex and unpredictable.

Yet, our purpose is very clear: we are responsible to the Government of Australia for the protection of Australia, our people and our national interests, whenever and wherever those interests lie.

In undertaking this mission the ADF, enabled by the Defence Organisation, might act independently, or it might contribute to a broader effort of other Australian or international civilian agencies or military forces.

The first few years of the 21st century have demonstrated that the dangers confronting us can take many forms.

Some dangers are traditional, and relate to state-on-state tensions over territory, resources or the balance and distribution of power.

Some are old challenges in new guises, such as the emergence of new terrorist groups and potentially pandemic diseases. Some challenges are entirely new, such as climate change and the impacts of global demography. And some are natural dangers, such as cyclones, earthquakes and tsunamis, to name just a few.

There is no question that the ADF’s tempo of operations has lifted markedly in the last decade or so.

Between 1980 and 1989 there were 16 ADF operational deployments involving just over 1,000 personnel. Between 1990 and 1999 there were 82 operational deployments involving nearly 17,000 personnel.
Of course, since then, our tempo has only increased.

More than 35,000 ADF personnel have taken part in the deployments between 2001 and 2007. This peaked in June last year when we had 5,200 personnel deployed around the world.

We currently (May 2007, Ed.) have about 3,850 ADF men and women deployed on operations, with another 500 deployed on security tasks in our Maritime Protection Zone.

It is a testament to the complexity of our current security environment that our people are involved in an array of situations, using a wide variety of skills from warfighting to peacekeeping.

They are undertaking border surveillance, fisheries protection, support to United Nations mandated operations, coalition operations, some national support tasks, and third country deployments.

Overall, I could not be more pleased with how all our operations continue to progress and how well we are able to achieve our many and varied tasks.

Of course, I remind you that when the ADF commits personnel to overseas service, it is not only the military facets of Defence that are affected.

The flow-on effect to the rest of our organisation—policy, logistics, intelligence, the three Services, people, health and strategy, to name just a few—is significant.

Moreover, in addition to the normal stresses caused by deployments, some of our recent operations have been quite complex in nature, requiring a high level of interaction with other nations, international organisations and other Australian government departments.

This additional collaboration makes these operations even more intricate for our organisation.

Needless to say, our people here at home are doing an exceptional job enabling our operational commitment.

The reputation of the ADF as a world-class fighting force is due, not only to our performance as a defence force overseas, but also to our performance as a defence organisation here at home.

I deeply appreciate the way in which Australian servicemen and women are supported before, during and after deployment.

Of course it goes without saying that people are my number one priority. I continue to work tirelessly for their welfare and strive to empower them in order for them to perform as well as they can.

That said, there are a number of areas in which we are currently striving to improve as an organisation.
Last month the Secretary and I agreed to implement nearly all the recommendations of the Defence Management Review, or DMR.

Initiated by the Minister of Defence in August last year to investigate organisational efficiency and effectiveness, the report made 53 recommendations as to how our department can improve.

Of these 53 recommendations, the Secretary and I agreed to implement 50 recommendations fully and two in part.

The DMR identifies the success Defence has had over the past decade in an unprecedented period of high operational activity. But it also notes the stress this has placed on Defence to deliver administratively when its main focus is on supporting military operations in deployments around the world.

This report makes some frank criticisms about our performance in some key areas.

There is clearly a need for greater clarity in our accountabilities; there is a need to be more responsive in supporting our ministers and the government of the day; we need to continue the development of our long-term planning; we need to streamline our governance systems so that we come up with a better way of making decisions; and we need to better understand our business systems and processes, most particularly in the area of service delivery and information and communication technology.

I want it to be clear that the Secretary and I welcome this report and its recommendations.

We are totally committed to implementing the recommendations that we have accepted and believe the DMR is a good opportunity for our organisation to get better at the way we do business.

Additionally, in talking about the ADF of the present it would be remiss of me not to mention the single biggest strategic issue confronting the ADF—that is of course, retention and recruiting.

We are currently implementing a number of innovative strategies whereby we can compete effectively in a very competitive market.

The ADF needs to grow to a full-time strength of 57,000 by 2016, an increase from the approximately 51,000 we currently have. To achieve this, enlistment to the full-time force needs to increase from around 4,670 personnel per year to 6,500. And we will need to retain more people by reducing our separation rate from over 11 per cent to below 10 per cent per year.

At the end of last year the Prime Minister announced $1 billion of new funding over the next decade towards stabilising, growing and maintaining our Defence Force. This was the first phase of a major overhaul of ADF recruitment and retention strategies, with further phases being developed this year.
This package focuses on streamlining the ADF recruitment processes, making a career in the ADF more accessible and financial retention incentives to maintain the ADF as an employer of choice. We are achieving some early successes.

In terms of retention bonuses, 86 per cent of those offered Army expansion bonuses have accepted them and 81 per cent of those offered a critical employment category bonus of $25,000 to stay in a critical trade have accepted them.

In terms of ADF recruitment, full-time General Entry recruitment is at 92 per cent; overall full-time recruitment is at 88 per cent; and full-time and Reserves overall entry is at 86 per cent. What this means is that the ADF has recruited 1004 more full-time and Reserve personnel this year than at this time last year.

The Budget this year tripled the amount of money allocated to specific recruiting and retention bonuses raising the total above 3 billion dollars.

These new measures include not only medium-term financial incentives but also enduring improvements in conditions of service to systemically fix the environment in which our young men and women work and live.

Specifically we are allocating money to:

- A modern and more flexible pay structure for other ranks;
- Enhanced assistance through a new Defence Home Ownership Assistance Scheme;
- Further reforms to Defence Force Recruiting and improved Service marketing and branding;
- The introduction of a new Defence Apprenticeship scheme and improvements to Cadets; and
- Further investment in our Navy and in the professional development of our Defence medical officers.

This commitment is being positively received by our workforce. There is still work to be done, but I believe these promising early figures show we are on the right track.

But that is enough about our current issues; I hope I have given you a very broad overview of where today’s ADF is currently situated.

I will turn now to the topic at hand, that is—‘The ADF of the Future’.

The ADF of the future

My vision for the future is one where the ADF is a balanced, networked and deployable force, staffed by dedicated and professional people, that operates within a culture of adaptability and excels at joint and coalition operations.
In order to ensure the Australian Defence Organisation is embarking on a journey that will steer the ADF towards achieving this vision, today I release the departmental document, *Joint Operations for the 21st Century*. (Available at: <www.defence.gov.au/publications/fjoc.pdf>, Ed.)

This document describes how we will best utilise the capabilities of our force to respond to the challenges, the opportunities and the uncertainties of the future in order to meet our commitments to the Australian Government. It provides guidance for how we should operate across a spectrum of activities—from humanitarian assistance and the provision of logistics support, to high-intensity combat.

In the future, we know that we must be able to fight well—but we know also that in an increasingly complex world, we will have to do more than fight.

*Joint Operations for the 21st Century* paints a picture of a joint force operating effectively as part of an integrated national response to events. This force will act to reach, know and exploit the future operating environment.

The purpose of this document is to act as a spur to our thinking about how we will fight in the future. In particular, this document orients every man and woman in Defence toward the future—it gives us all an understanding of where we will stand in the world in 2030 and the kinds of things we will be called upon to do. It also describes the attributes of the future force—not what we will have in terms of capability necessarily, but how we will behave.

My vision of a balanced, networked and deployable force is supplemented here with qualities that include being integrated and interoperable, survivable and robust, ready and responsive.

In many ways, of course, these are already features of the Australian approach to warfighting, but for the future force, as we shall see, these are ever more important qualities, ones that we must foster if we are to continue to thrive in the challenging future environment.

**The shape of the future strategic environment**

Of course, before we can position ourselves to thrive in the future environment, we must ask ourselves what shape this future environment will take.

Predicting the future is a tricky business, and as such we can only begin to sketch the contours of what we will face come 2030.

That said, we can safely predict that armed force will remain an important element of international affairs, and we cannot guarantee that Australia will remain free from threat to our national security in the long term.

While the international system can act to constrain the use of force, we cannot dismiss the possibility of major conflict between states. Other threats to Australia’s territorial integrity, sovereignty and broader national interests could also challenge our security in a way that requires the application of military force.
Global factors (such as terrorism, pandemic disease, resource depletion and the security impacts of climate change) and regional factors (such as state fragility, poor governance and economic underdevelopment) may affect Australia’s security interests, both directly and indirectly.

These threats may be compounded by factors such as the impacts of globalisation, the rise of new military powers, newly emerging technologies, or the growth in other non-traditional challenges.

Singly, any one of these threats could disrupt the military balance between states or present non-state actors with an opportunity to challenge state power.

Together they shape the new security environment within which the ADF must operate. In particular, we face an environment in which rapid rates of technological change and the altering human organisation of warfare have the capacity to substantially enhance the capabilities of our future adversaries. These challenges include:

- readily available ‘low-tech’ capabilities;
- increasingly secure and sophisticated command, control, intelligence, surveillance and reconnaissance systems;
- increasingly lethal, survivable, and deployable conventional platforms; and
- increasingly available advanced conventional weapons.

The increasing lethality and precision within certain battlespaces (particularly those principally suited for maritime and air force elements) means that we will seek to reduce both the footprint and the vulnerability of deployed forces.

At the same time, the ADF should expect to be involved in more operations that are low-intensity, particularly stabilisation operations, that require a demonstrably visible presence on the ground.

This tension between force presence and force protection will be a principal issue for the ADF in the foreseeable future.

At a national level we can also identify a number of trends that will require us to adapt the way we operate in order to operate successfully into the future.

Our deepening interdependence with our allies and the global military–industrial system, for example, will require us to alter our definition of self-reliance from one that calls for self-sufficiency, to one that understands the ADF will operate with support from multiple global sources, in the form of enabling capabilities such as intelligence, surveillance and reconnaissance as well as in terms of the supply of essential war stocks and sustainment.

**What we will be called on to do**

This brings us to the question of what we will be called on to do in the future.
While armed conflict will continue to involve the application of organised force in combat environments, the conduct of joint warfare will include both violent and non-violent applications of military power.

In 2030, the ADF will need to be able to do the following:

- Firstly, in keeping with long-standing Government policy, we will need to be able to defend Australian territory against credible threats without relying on the combat forces of other countries.
- Secondly, we will need to be able to provide joint forces to contribute to, or lead, coalition operations in Australia’s neighbourhood.
- Thirdly, the future force will be called upon to contribute to coalition operations further away.
- We will also continue to support United Nations’ activities and honour other longstanding multinational commitments; contribute to crisis response as part of a coalition effort in humanitarian assistance and disaster relief; as well as routinely work with other government departments to provide options to Government to protect and promote Australian interests.
- Finally, we will continue to be called upon to provide regional situational awareness to a global commitment of military force.

As is apparent, many of the things we will be called upon to do are responses to contingencies that could arise with little to no notice. The brevity of warning time almost ensures that we will join the fight with a ‘come as you are’ force.

This means that our future force will need to be appropriately structured to manage the risks posed by our uncertain future strategic environment.

In particular, this means the ADF will need to be structured such that we can provide Government with key strategic response options, as well as perform necessary pervasive and ongoing strategic actions.

These include maintaining and enhancing our ability to:

- **understand** the geopolitical and operational context and maintain appropriate situational awareness;
- **shape** (and **deter**) the choices of potential adversaries seeking to directly attack Australia or its interests;
- **defeat** any potential adversary seeking to launch attacks on Australia;
- **deny** operational freedom to any potential adversary or security threat within the immediate neighbourhood; and
- quickly and decisively **assist** the civil authorities of Australia by providing military assistance;
Understanding and shaping our environment; deterring, defeating and denying our adversaries; and assisting Australia’s civil authorities—these are the core strategic response options that the future force will provide to Government.

**A national effects-based approach**

In order to perform these key strategic tasks, the future force will build on our already substantial commitment to a national effects-based approach.

A national effects-based approach views our nation and our enemy as operating in one global system with political, economic, military and social dimensions, where actions in one dimension, for example the economic dimension, can have direct impacts on another, including the military dimension.

Therefore, tasks performed by the ADF—and Defence more generally—are but one component of the suite of tools that can be used by the Australian Government as it goes about protecting and promoting our national interests.

For the ADF, seeing ourselves as a single integrated tool in service of the Government has a number of implications.

Firstly, it means that in fact we need to be a fully integrated force, so that our actions work together to enhance the effects that we seek to produce.

The ADF has already embraced network-centric warfare as a key enabler of our capability through generating tempo, precision and combat power. Network-centric warfare therefore is one step on the road to a fully integrated force, one which goes beyond simply jointness. Another step includes the creation of the integrated Headquarters Joint Operations Command.

Secondly, we need to be part of an integrated whole-of-government response. Defence may not always be the lead agency for dealing with security challenges, and we need to be prepared for, and highly capable at, working with other government departments.

We need to go from using an inter-agency approach to ‘get through’ a crisis, to using a multi-agency approach, where we work together on an ongoing basis to meet the Government’s goals through providing an integrated response.

This is a big move forward for the future, and Defence will need to take a number of steps to achieve this for 2030.

As a start, we may need to include agencies with recurring and major roles in response operations, such as the Australian Federal Police and the Department of Foreign Affairs and Trade, in our planning and operational processes.

Representatives of such organisations should not be involved simply as liaison officers but rather should be integrated parts of the planning and operations staff.
Another real challenge will be to extend our network to agencies outside the ADF and Defence. These will need to be tailored to allow external agencies to perform their roles and tasks relative to the contingency.

One method might be to distribute a baseline capability that can be expanded rapidly to meet changing circumstances.

**Multi-dimensional Manoeuvre**

However, despite the need to consider the whole-of-government dimension of our responses, the ADF and Defence bring a formidable set of strategic response options to Government in our own right.

Our abilities to understand and, to a certain extent, shape the security environment, to deter, defeat and deny potential adversaries, and to assist civil authorities are unmatched thanks both to our scale and our unique capabilities.

To make best use of our capabilities, we need to think carefully about how we will apply them in the future.

Our new Joint Operations for the 21st Century document replaces the old Future Warfighting Concept. The Future Warfighting Concept articulated for the first time the principle of Multi-dimensional Manoeuvre as our approach to future warfare.

Multi-dimensional Manoeuvre seeks to negate the adversary’s strategy through the intelligent and creative application of an effects-based approach against an adversary’s critical vulnerabilities. It uses an indirect approach to defeat the adversary’s will to oppose us.

Multi-dimensional Manoeuvre focuses on achieving effects which create a dilemma for our adversary that they cannot resolve. This task requires a deep understanding of an adversary, the environment and the capability of our own forces.

In particular, we need to understand how the adversary views their goals and their own capabilities.

Achieving this understanding—and then finding the right tools to create the necessary effect—will of course require Defence to share information and plan collaboratively with other government agencies.

But we will also need to be able to generate sufficient tempo to undermine our adversary, be sufficiently agile to recover from the inevitable surprises of our future, and be able to achieve effects simultaneously across the spectrum of the adversary’s activities.

Perhaps in some ways against the prevailing wisdom, Multi-dimensional Manoeuvre sees possibilities for a conventional military force to fight asymmetrically—through tailoring our operations so we do not fight like with like, or avoiding battle on unfavourable terms altogether.
Further, deception and surprise are parts of an asymmetric attitude that refuses to accept conflict on the adversary’s terms.

Achieving Multi-dimensional Manoeuvre relies on the effective utilisation of what we term the joint warfighting functions. That is, to undertake defence operations, we need to be able to generate and sustain, deploy, protect and apply our forces.

We also need to be able to command and control that force, as well as we need to achieve knowledge dominance. Knowledge dominance is not, as it might seem, the simple gathering and dissemination of ever more information.

It is a human driven component of warfighting; it is about using modern information technology and network-centric warfare to enable humans to better understand their environment, themselves and their enemy. People are the key to warfighting capabilities, and knowledge dominance enables our people to do their jobs better, faster and in ever more challenging circumstances.

However, knowledge dominance will involve recognising that information is both a boon and a burden in hierarchical organisations like the ADF—we need to get the right level of detail to the right person at the right time, no more and no less.

A joint operations concept

Knowledge dominance, and each of the joint warfighting functions, will enable the future force to perform Multi-dimensional Manoeuvre.

However, simply describing what Multi-dimensional Manoeuvre hopes to achieve and the functions of the future force does not provide us with a sense of how the future force will operate.

At the heart of Joint Operations for the 21st Century, phrased in an appropriately straight-forward manner, there is a description of how the future force will operate. The future force’s actions will be described by our ability to reach, know and exploit.

Reach describes the future force’s ability to operate in multiple spatial dimensions and across the physical, virtual and human domains in order to achieve our strategic objectives.

Here in Australia, the breadth of our territory requires us to pay close attention to our ability to reach: sometimes it is not even a matter of reaching far flung places, but simply a matter of reaching forward positioned bases.

But physical distance is not the only dimension of reach, since our ability to reach across other domains—particularly the human domain—will require us to be part of the integrated whole-of-government response I spoke of earlier.

Knowing is related to our ability to achieve knowledge dominance, and will require us to turn information into knowledge that is timely, relevant and accurate.
Knowledge will need to be acquired, refined, prioritised, refined and shared vertically (across strategic, operational and tactical levels) as well as horizontally (within the joint force and as part of multi-agency efforts). However, reaching and knowing are in themselves not enough. Together, they must enable the future force to identify and create effects that must ultimately be exploited.

**Conclusion—Attributes of the future force**

In conclusion, if we can effectively utilise the operating concept of reach, know and exploit to achieve Multi-dimensional Manoeuvre, then we should be poised to take on the uncertainties of our future strategic environment.

However, the future is just that—uncertain—and no concept can pretend to survive contact with the enemy.

In fact, concepts are just an idea of how we might do something, a vision for the future. They need to be developed and challenged and extrapolated. They need to be tested and refined.

*Joint Operations for the 21st Century* describes what we want from our future force.

It is an iteration of the Future Joint Operating Concept as described in Defence’s Strategic Planning Framework, and it will guide our concept development and experimentation, our doctrinal development, and the testing of our future capabilities.

The future force it describes is a recognisable development from our current force. This future force is balanced, networked and deployable.

As we have seen, this force is integrated and interoperable; survivable and robust; ready and responsive; agile and versatile.

However, to achieve the effects we think will be required into the future, this force also needs to be persistent and poised; sustainable; and capable of concurrency. It is a future force designed to achieve our mission of defending Australia and our national interests well into this unpredictable century.
Panel Discussion: 
Deputy Chief of Navy¹
ADF Responses to Meet Future Contingencies

Rear Admiral Russell Crane, AM, CSM, RAN

I want to highlight to you my thoughts on the role of the Navy in future contingencies. Specifically, future joint operations. I note that you have already had a presentation on future trends in the international security environment, from Mr Max Boot and another from General Abizaid on combined responses to national and international events.

Both of those presentations highlighted issues that we need to address. In the case of Max Boot, the need to look at cultural and organisational issues. To remain competitive when dealing with non-state actors. In the case of General Abizaid, bin Laden’s domination of the virtual battlespace and our need to contest that space.

Now I do not propose to revisit those positions, other than to note, as CDF has recently identified, the continuing and increasing need for us to address the information domain as a key warfighting tenet. It is not just about cyber-attack or cyber-defence, but about the entire information domain.

I am not talking specifically about public affairs—but I think that concepts such as information power, information control and knowledge dominance need to be addressed, and addressed in some detail, in the not too distant future.

I want to focus on the Royal Australian Navy and its role as Australia’s maritime power and the role it will play as part of the future force. I will leave the important issue of the virtual battlespace for another day.

First a few questions and perhaps some definitions. How far out? Well, what I want to talk about is the period out to about 25 years from now. Contingencies? You may have heard my Chief of Navy say that we, the Navy, are here to conduct maritime operations.

Now this is a variation from the Navy vision which is to fight and to win at sea. The subtle difference is that maritime operations cover a very broad spectrum of operations, and a modern navy must be capable and prepared to conduct all of them. We cover the entire spectrum and it is worth spending a few minutes on it, as it highlights just how broad our potential remit might be.

What level and where on the span of maritime operations (Figure 1) are the roles and missions we should be prepared to conduct? The answer, of course, is all of it. Because that is what
we must be prepared to do. If however, we are well prepared for combat operations, then we pretty much should have the rest covered. We therefore need a force that can achieve all of these operations, through being adaptable, flexible and agile.

In the Future Maritime Operating Concept, or the FMOC, the Navy-led, but essentially joint concept, which contributes and aligns to the Future Joint Operations Concept that the CDF has just launched at this seminar, we have developed a second approach.

It focuses on the roles and missions in the maritime mission space. However, through the blurred borders between missions, we are also highlighting the fact that future warfare will be complex and unpredictable. Forces may also have to rapidly transition between or concurrently conduct tasks in the mission space.

Let me just quickly define or mention the four quadrants (Figure 2). In the top left, assistance and diplomatic operations are those operations conducted in support of shaping the strategic environment and include shows of force, blockades, humanitarian assistance, international engagement activities such as capacity building, foreign training and diplomatic visits.
In the top right, law enforcement operations are those conducted in support of activities such as resource protection and combating trans-national crime. For instance, drugs, customs, quarantine et cetera. At present, these activities are, in the main, conducted by our patrol craft in support of Border Protection Command. But we also have a major fleet unit tasked in this area and, in the future, more major fleet units may be required.

In the bottom right, security operations are where the ADF’s principal role is to provide a secure environment, within which other government departments and non-government agencies can deliver their services to achieve the national intent. It contains missions such as peace preservation and nation building.

And lastly, combat operations, where the ADF’s role is to defeat an adversary, be it state or non-state, through the application of lethal force. In the maritime sphere, this includes the projection of maritime power and the exercising of sea control or local sea control. The arrows represent the anticipated intensity and duration of lethal encounters in each of those quadrants.

So that is a summary of the roles and missions of the navy of the future. Are they any different from the roles of the past or the roles of the present? Perhaps not. The real differences lie in the assets we will operate in order to successfully achieve the missions and in the whole-of-government, whole-of-Defence, approach to achieving them.

Figure 2: Future Maritime Operating Concepts (FMOC)—Mission Space
This leads to the joint nature of the future warfighting problem. Allow me to focus on expeditionary operations and to focus from a maritime point of view, in order to best address the joint aspects of future operations.

The Future Maritime Operating Concept states that amphibious warfare is the most complex proposition for the future ADF combat power development out to 2025. Preparing the battlespace by establishing local sea control, deploying joint combat elements ashore, supporting them and then extracting them to manoeuvre or at the cessation of operations, will require significant resources and coordination of effort.

This is where Navy will have a crucial role in a very joint operation of the future. The fundamentals of this operation are the same, regardless of where it occurs. We need to be able to lift the combined arms battle group. We need to be able to transport it somewhere. We have got to deliver it, protect it, sustain it, recover it and then bring it home.

The main thing about amphibious operations is that it is shifted operational focus to the littoral: where we all meet. The coming together of land, sea and air, at a crucial juncture. This involves us understanding that we are joint and that the fight will be joint and that little can be gained from an argument about who is supporting who.

We must work together and the future joint operations concept makes this very, very clear. The littoral represents a very complex terrain from a maritime perspective. It brings us more closely into contact with merchant shipping, civil users and perhaps, most importantly, its proximity to urban centres, with the difficulties and opportunities they impose, from a military perspective.

The littoral is a terminator for the open ocean and sea lines of communication (SLOC) that will remain the artery, supplying the life blood of world trade for the foreseeable future. SLOCs again, represent opportunity and difficulty but we ignore their importance at our peril.

Australia’s—and indeed it could be reasonably contended, much of the world’s—economic wellbeing remains tightly bound to these SLOCs being open and unfettered. Again, using some of the Future Maritime Operating Concept terms, allow me to outline how we see Future Navy achieving the aim.

The FMOC asserts that the Future Force, acting independently or as an element of a combined force, will be required to project force and gain local sea control from home port, across open ocean SLOCs and through choke points and across the littoral.

The FMOC uses five capability or maritime capability enablers. By briefly studying them, I will demonstrate how the Future Navy will successfully complete its independent or joint mission. I think you will find a direct correlation between some of these enablers and the major tenets of the FJOC, the Future Joint Operating Concept, as outlined by the CDF.

First, Assured engagement is the capability of maritime forces to decisively engage target sets across the battlespace, using network systems to provide the required responsiveness, weight of fire, precision and assured success, by employing lethal and non-lethal weapons.
Assured engagement provides the means for engagement of targets across the land battlespace. These naval fires are likely to be a growth industry. The presence and poise of Navy units allow them to generate sustained effects, through superior reach and precision.

Second, Maritime manoeuvre is the capability of maritime forces to move freely between the open ocean and the littoral environments and to project force by exerting local sea control, to facilitate the delivery of support to the joint mission. The Future Navy will employ the multi-dimensional manoeuvre approach for the conduct of operations, as highlighted by the CDF. In part, this is driven by the necessity for a small to medium combat force such as ours, to achieve disproportionate effects while avoiding attrition.

Third, Sustained presence is the ability to maintain and sustain an adaptable and flexible force throughout the area spanning Australia and all of its maritime boundaries. Pressures on force flexibility could include sustaining commitments over a period of years and maintaining this, while other short-term concurrent operations compete for maritime forces.

For the future maritime force, the pressures on raising and sustaining the required people may become even more demanding due to demographic trends. These needs will drive us to radically reduce manning wherever it is feasible or possible.

Fourth, Enduring protection is the ability of each maritime force element to successfully achieve designated missions and tasks, through the combined capability of defensive staying and fighting power. It allows units to deflect attacks, absorb damage if necessary, and to be able to counterattack. A small to medium size force, such as the Future Navy, has a limited number of platforms and units it can deploy, rotate or replace. Therefore, the preservation of combat power in the Future Navy will be absolutely essential.

And finally, Knowledge, command and control is the exploitation of superior battlespace awareness and, through our people, innovatively applying operational art and adaptive command to gain decision superiority over an adversary. Without effective knowledge, command and control, the capabilities delivered by other maritime capability enablers cannot be effectively orchestrated and brought to bear to generate a fighting edge.

Knowledge, command and control provides enhanced situational awareness and adaptive response to effectively deliver future maritime combat power.

Now, as was highlighted in the span of operations and the quadrants of the Future Maritime Operating Concept mission space, we must have a maritime force that is readily adaptable to a vast array of roles and missions, be they diplomatic, constabulary or combat related. The force must be able to respond to catastrophic short-term shifts in the security environment, while remaining capable and reliable enough to achieve the long-term objectives of the combat operations and the maritime power projection and control.

It must achieve the aspects of the future joint force pursuit of the mission of defending Australia and our national interests.

1. Chief of Navy was unable to participate in the panel discussion due to other commitments.
Panel Discussion:  
Chief of Army  
ADF Responses to Meet Future Contingencies  

Lieutenant General Peter Leahy, AC

My starting point for the future is the fact that right now members of the Australian Defence Force, but particularly of concern to me is that members of the Australian Army, are at war. We need to be very conscious of where they are deployed, because particularly in Iraq and Afghanistan, they are facing a very cunning, ruthless and determined enemy. We need to make sure that their future is assured and that they can do their job, they can do it well and come home having made us very proud.

Certainly in the Army, we will not forget that. We have had many of our soldiers deployed and the future means that many more will deploy. So we must make sure that they are well trained, they are well equipped, they are well prepared and, importantly, that they are well led.

With regard to future contingencies, I know that we have had lots of people predict what might happen in the future. What I see is in fact more of the same. I know we have to keep an eye on the past but we also have to be ready for the future. We have seen some quite significant shifts in the nature of conflict which can be easily measured in terms of what the Australian Defence Force has been doing in the last six or seven years.

We had some hints during the late 1980s and the 1990s. There were some very erudite books, Kaplan and Kennedy and others wrote about ‘The Coming Anarchy’ and a troubled and fractured planet. I think that is what we are experiencing at the moment. I think it is what we have to prepare our forces to be involved in and that is really the nature of the changes that are occurring inside the Australian Army.

I characterise those changes as growing and modernising. At the same time we have to be very conscious that we have our forces deployed on operations and that we have to look after them and provide everything that they need.

Previously we might have said to ourselves, you cannot do both tasks, you cannot modernise and conduct operations at the same time. I am now convinced that you can do both. We are both modernising and growing and doing both well because we are conducting operations.

We all know that chiefs are meant to have visions every now and again. I am not sure whether they are religious visions or other forms of artificially induced visions. The Army that I envisaged for about 2012 or 2015 is partially in the field now. If you look at what our Special Operations Task Group is able to achieve; in terms of the delivery of effects; the understanding of the battlespace; the networking and the ability to acquire information and use it immediately is what we all saw the Army looking like in 2015. That future is here now.
The task for us now is to grab a hold of that future, to bring it back, to consolidate it and to make sure that we put it into the rest of the Army. I am quite confident that as we go through this operational phase, not only can we modernise, but we can conduct operations at both the tempo and quality that we have been able to achieve right now.

I trust that you all understand the nature of the changes and the growth and the modernisation of the Army. They are clearly encapsulated in the Hardened and Networked Army theme, but also now the enhanced land force theme. By hardening we mean harder to hit and when we hit, we will be able to hit harder with added precision and discrimination. By networking we mean that we can bring together all the effects from the joint force, from the Army, and also from civil agencies in a communications sense but also in the intent of delivery of effects.

As we look to the future of war I think we have to acknowledge the changing nature of war. As I have said, there have been hints. We have been involved in Cambodia and Rwanda and Somalia. We have seen it in Chechnya, we have seen it in Mogadishu. We continue to see it all around the world. This is the changing face of warfare. We would describe it as being part of globalisation.

We do know about the globalisation of economies and cultures but I think we are seeing the globalisation of security. And that is why we find ourselves involved in many different places, some of them perhaps where we did not imagine we would be and where we did not imagine we would be doing what we are doing. We have to be prepared to do many things.

We see vastly increased complexity on the battlefield. It is rather a paradox that the enemy has vacated the battlefield. Why stand out there in your serried ranks wearing uniforms with bands, mess silver and all sorts of things where you can be seen? The complexity has come about because our enemy has gone to asymmetry and he has gone to culture and he has gone to cities. We cannot see him clearly with our predominant ISR. We say we will no longer fight with information; we will have to fight for information. Which apartment building is he in, which room is he in, what is he thinking, how is he preparing for this asymmetrical warfare?

The complexity of cultures and structures is a great task for us. We talk about lethality. Clearly our concern is the terrorist with a weapon of mass destruction. But we are also seeing that lethality is not just the frontline. Damage and death is occurring in all lines in all places, not only in deployed theatres but also in our homelands. It is in the places we visit and in the places where we vacation. We have to be prepared for this increased lethality.

And, as General Rose has stated, this is about war among populations. We do not have free rein out there any more. We have to be careful about non-combatants. We have to be very careful about the people of the communities that we are visiting, that we are protecting and supporting and persuading. Because this is about legitimacy, this is about developing governments and allowing people to live within their communities, free and with hope for the future.

I feel that we must be prepared to meet more of these complex, lethal, among populations and globalised campaigns into the future. And that to me is a task for the Army, to prepare for this future.
There are some elements that will describe it very clearly. It is going to be joint. I am reminded of the White Paper of 2000 that did not describe the Army but it defined the land force. It said it is all of the Army and those elements of the Navy and Air Force required to deploy it. I thought that was wrong then. The Deputy Chief of Navy has described it much more correctly. It is deploy, support, sustain and redeploy.

We need help out there. I say to the Army, we have to be the most joint force because we cannot do much of this on our own. How do we get there without the Navy and the Air Force, how are we supported and sustained and then redeployed without them?

Increasingly our operations in the future will be coalition operations. We all know the theories; spread the political and military risk. Increasingly we have to be concerned that as we look at our responsibilities in this region we might be the coalition lead. For those involved in the early days of Timor, what a surprise that was and how poorly prepared were we? Well we are in much better shape now.

We have to deal with an increasing spectrum of conflict and it is not only conflict; disaster, peace support, humanitarian, peace enforcement, conflict and warfighting—we must be prepared and agile and versatile across all of those possible contingencies. We have to be concerned that these contingencies will be at short notice. As I look out at the Army, we need a readiness culture not only in the 3rd Brigade, but a readiness culture across the Army.

We have to be prepared to understand that we might go for one mission which could change very quickly. We have heard the Marines Corps talk about the ‘three-block war’. We have to acknowledge that the nature of the conflict we will be involved in will evolve very quickly and we have to be agile, flexible and adaptable.

We are all using those terms of flexibility, adaptability and agility. They are the right terms to use but I do not know what they mean yet. How do we make a force prepared for one thing, flexible and adaptable across a range of issues? I have some ideas and I think it is mostly in our head space, it is the way we think about what we are doing. We cannot change the equipment and the capital acquisitions all that quickly. It is how we use those things. This is the challenge and it is an intellectual challenge to understand the nature of the conflict we are going into. We have to understand and shape the campaign environment and then make sure that we use the right tools in the most effective way. It is an intellectual challenge. It is about doing different things with the same stuff.

Let me talk briefly about how the Army is preparing for this future and how we are changing. Firstly, and I think you know full well, equipment. There are enormous changes to equipment. For example, the M1A1 tank. For those who had some doubt that we could not move it around Australia, it was recently offloaded from Manoora onto Betano and then taken ashore in Darwin Harbour.

We have to adapt our structures. We are getting UAVs, Unmanned Aerial Vehicles. We do not have a UAV regiment. We are making that right now and we have seen UAVs used in both Iraq and Afghanistan to enormously good effect. We have to make changes to our structures.
We have to improve our Doctrine and Training. This is the most important part. We are developing a new concept called ‘adaptive campaigning’, which emphasises that it is not just the military, it is the whole-of-government.

Recently, I was in Pakistan at a conference where President Musharraf spoke to the assembled chiefs from the CENTCOM arena. I am not sure what I was doing there but I was very pleased to attend and to hear some of the issues they were discussing. President Musharraf almost accused us, he pointed his finger at the crowd and said let me tell you, the military are not the solution. I thought well, Amen, we know that.

This is a campaign about national power and all the elements of national power. This must be understood as part of our Doctrine and Training not only within the military but also within the broader Australian community.

For Army, another important change is the use of Reserves. Right now there are over 1000 reservists on continuous full-time service. The 2nd Division, the Reserve Division, has responsibility to maintain the campaign in the Solomon Islands. Right now without the Army Reserve we would be hard pressed to be doing what we are doing. There is an enormous change occurring within the Reserve. Recruiting and retention numbers are up. We have asked them to be both ready and relevant. Ready for the task at hand, this is not three to five years turnout with brigades. This is right now. Relevant to rebuild broken communities. These are the skills that the Reserve can bring to the modern battlefield. They are town planners, they are linguists, they are familiar with culture, they are power, water and sewerage reticulation experts.

The final area of change is obviously to do with growth. We have to recruit and we have to retain. I am pleased to see that the changes that were both announced by Government in the recent Budget and steps that we took beforehand to improve recruiting for the ADF are starting to have an impact. Right now the Army is recruiting 200 per cent of our target for riflemen. We are recruiting well in the military trades but like the rest of the community, we are having difficulty recruiting plumbers, doctors, lawyers, electricians. It is reflecting what is happening out in the community.

I am confident that there are people out there who want to join the Army because when I see them in the field in places like Afghanistan and Iraq, they are great ambassadors for Australia. They represent our values as a nation and they also represent, importantly, our Army values of courage, initiative and teamwork. I think we are going to get people, and they are going to want to stay. They feel as though they are making a difference, they are challenging themselves and they are doing something for their community and for the communities that they visit.

Let me conclude. I am confident as we look to the future that we are preparing an Army that can deal with future challenges and emerging missions. I am most confident because it is based on our people. Our people are meeting the challenges of today and they will meet the challenges of the future.
The Future Joint Operating Concept (FJOC), released by the Chief of the Defence Force, provides an overarching concept for the future operations of the Australian Defence Force and is supported by concepts that describe operations in the three major combat environments.

In the case of the Air Force, the Future Air and Space Operating Concept (FASOC) articulates the RAAF’s transition through the 2006–16 Defence Capability Plan (DCP) and also how the future force created by the DCP will operate until about 2025.

The Air Force vision is ‘To be a balanced expeditionary Air Force capable of achieving the Government’s objectives through the swift and decisive application of air and space power in joint operations or as part of a larger coalition force’. While warfighting remains the core competency of the Air Force, I believe now and into the future, the Air Force needs to be balanced.

It means that we need the full suite of capabilities, from the high-end force elements, such as our air combat forces that were used in the early days in Iraq and the airlift and surveillance assets that are still deployed in theatre. At the same time, we need the capability to operate in a lower threat environment as we were required to do recently in East Timor, the Solomon Islands and Aceh.

Focused by this vision and aligned with the CDF’s intent expressed in the FJOC, we intend that Air Force will:

- Become a networked expeditionary force capable of creating a broad range of tailored effects consistent with the needs and requirements of a national effects-based approach to Australia’s security;
- Operate seamlessly in the joint environment and, more completely, in the national security environment;
- Be able to integrate with allied air forces and be interoperable upwards, horizontally and downwards with coalition and a wide mix of regional partners; and
- Deliver the right effects through adaptive and responsive command, control and engagement across the full range of military operations—from disaster relief to high-end conventional warfighting.
While we are in the process of transitioning to an emergent force, some things that form the foundations of our Air Force will not change.

First and foremost, our Air Force is about generating and sustaining air power to secure Australia and its interests.

We will continue to be a fighting force that can be legally directed by our government to apply lethal force to defend our nation, but will also preserve our ability to conduct a wide range of operations. This gives us the flexibility to adopt both hard and soft options in the employment of air power to shape, deter and respond to the strategic environment in the national interest.

Second, professional mastery of our people will continue to be the cornerstone for the generation of air power and for the Air Force to continue to be a first-rate force. Only professional masters can be innovative and adapt to realise an operational edge, as well as embrace change. Standing still in today’s world is not a viable option if we are to generate air power relevant to Australia’s future needs.

Third, the Air Force will retain the capability to generate and sustain operations during the ongoing evolution to the future force, through individual and collective learning and through effective planning.

And, lastly, the joint functions described in the FJOC will continue to be the basis for our future development because they are broad and practical and conceptually describe the framework within which the Air Force’s operational capability is developed.

From the very beginning of military air power application, the Air Force has always brought three complementary capabilities to the prosecution of a joint campaign.

First is the ability of air power assets to conduct intelligence, surveillance and reconnaissance (ISR) activities that greatly enhance our visibility and knowledge of the battlespace, or more precisely the ability to find and inform.

The second is the ability of air power to influence the battlespace, in both conventional and unconventional ways. To mould the battlespace in such a way that friendly forces are free to operate without undue hindrance.

The third is air power’s ability to respond in a timely and proportionate manner to emergent situations to create precise effects in a controlled manner.

In effect, the crux of air power application in today’s context is its ability to find, influence and respond.

While the core air power capabilities that I have mentioned do not change, the way in which we generate and apply them is undergoing a transition.
The capability of the Air Force to carry out ISR functions and then translate that into an effective information edge, thereby assuring situational awareness to commanders at all levels, will be enhanced by the introduction of high-altitude, long-endurance (HALE) uninhabited aerial vehicles.

The new AEW&C Wedgetail will provide flexible and responsive command and control (C2), in conjunction with the ADF’s broader C2 and ISR network, for the synthesis of information to ensure that we have decision superiority when and where it counts.

The introduction of the new strategic airlift capability with the C-17 aircraft is a quantum leap in our capacity to not only influence emergent situations, but also our ability to support larger force deployment requirements at longer ranges and for extended periods of time.

Further, the introduction of the ADF’s new multi-role tanker transport, the KC30B, gives us unprecedented flexibility in the deployment of the offensive elements of the force while providing an added capability in terms of force deployment.

Our response capability is dependent on the New Air Combat Capability (NACC).

However, in order to mitigate any risk of the emergence of any potential air combat capability gap, Government has approved a transitional bridging capability, the Super Hornet, the timeframe for which is essentially driven by the RAAF’s need to retire legacy capabilities at a time of our choosing, as well as our capacity to manage multiple capability transitions over the coming 10 to 15 years.

The Air Force will have to make 10 or so major capability transitions over this period, the most intense transitional load since its post-Vietnam modernisation when Air Force was some 23,000 strong versus the current 13,350.

We are also currently involved in operations as this transition commences.

The planned air combat transitions alone involve the withdrawal of the F-111 and introduction of the F/A-18F in 2010, the transition to the F-35 from 2013 to 2018, the phaseout of the F/A-18A from 2014, and the desired withdrawal of the F/A-18F and introduction of Phase 2C of the NACC from 2018 to 2020.

Phase 2C might be a new platform, an uninhabited aerial vehicle or a fourth squadron of F-35. My view is clear—I want the 4th JSF squadron.

While the new capabilities represented by the platforms that I just mentioned are being well and truly bedded down, we cannot forget that the Air Force is constantly evolving.

At the heart of the change is that the Air Force is evolving from one which is marginally networked to one which is fully networked. This is not to say that our Air Force does not currently network, of course we do. We would not be able to conduct any operations if we did not.
It is just that compared to the network that we envisage with our emerging force, our current operational networking is rudimentary. From about 2016, we envisage a seamless national and military command and control that is vertically orchestrated.

The Air Force will realise and deliver to the overall joint effect four fundamental developments that will effectively change the nature of operations.

First, a smart, high-capacity air network that provides wide-bandwidth, high-resolution data and communications connectivity will help make the force fully networked. This will change the way information is moved, shared and utilised.

Second, persistent surveillance and reconnaissance platforms with high-fidelity sensors will be able to provide accurate and timely information across the force.

Third, an integrated, adaptive command and control system will be in place, capable of exploiting the latent synergy within the network and the ISR regime. Such a C2 capability will enhance the situational awareness and, when optimally integrated, enable decision superiority. C2 will be a key performance driver for future air power. HQJOC and the embedded/integrated Air Operations Centre is at the heart of this.

Fourth, and equally significant, is that our Air Force will have operational systems that are designed to take advantage of the network and related C2 systems automatically. Some of these new operational systems will also offer their own unique capabilities to the larger network, thereby increasing their overall efficacy. Fifth-generation stealthy fighters that are just as capable of being ISR and communications nodes as they are of delivering air-to-air and air-to-ground ordnance or electronic effects, global-range airlifters and uninhabited aerial vehicles with very long endurance for persistent presence in both ISR and response roles are some examples.

These four fundamental developments will enable the Air Force to integrate seamlessly in joint, inter-agency and coalition operations through the network to apply air power in dynamic ways.

If we assume that the four fundamental developments that I listed above are delivered as planned, then how will the future Air Force function?

Fundamentally, it will function within the larger ambit of the joint functions as described in the FJOC and be part of a seamless joint ADF.

The functions will be conducted and controlled through a robust C2 system, which in an air power context is the authority to direct and integrate systems, structures, personnel and equipment with information for the planning and execution of air campaigns. The right effect through precise command and control.

C2 will be cross-functional and provide the foundation for networked operations. The C2 function will be responsive and flexible, and able to apply command and control at different levels within the battlespace. The AEW&C aircraft and the Eastern Regional Operations Centre will be critical elements in the C2 network. By synthesising ISR and information operations,
enabled by responsive and adaptive information support systems and processes, information superiority can be achieved, which will in turn lead to decision superiority.

Turning now to force deployment. This task is critically dependent on the ADF’s mobility systems, of which the Air Force provides a crucial element.

The Air Force’s responsive global airlift is a vital part of force deployment because of airlift’s responsiveness, speed and range. Our C-17s will increase our flexibility in both air-land and airdrop operations, allowing us to increase the weight and capacity of forces deployed while at the same time minimising our logistics footprint.

Further, all airlift assets will in future also function as nodes of the larger network, especially in encompassing units operating at the geographical extremity of the network.

I am concerned about force protection. In the Australian context, force protection is a very challenging task for two primary reasons.

The Air Force is a small force and cannot afford heavy attrition and, by the same token, must carefully balance the effort and risk with force application requirements.

Air Force also has to be doubly careful regarding the protection of high-value and scarce assets like the AEW&C and our refuelling AAR aircraft, the loss of which will immediately and directly affect our operational capabilities.

Future force protection will also have to deal with threats in the cognitive and information domain. Ensuring the integrity of our network will be central to our force protection efforts.

Our Air Force exists to produce effect in and from the air to secure our national interests. This is force application. This capability is also a significant deterrent.

Through stealthy fifth-generation platforms and stand-off weapons, the Air Force will maintain the capacity to strike even in contested battlespace. Air Force will provide support to the joint or coalition commander through the conduct of timely air missions to create decisive effects through both kinetic and non-kinetic means.

In order to be successful in force application, all other functions will have to be conducted within the unified C2 system.

For the Air Force, force application in the traditional sense involves obtaining and maintaining the appropriate degree of control of the air, strategic attack and integrated air operations.

From an air power perspective, precision weapons and smaller yield or non-lethal attack will be the order of the day to negate any chance of undesired collateral damage. They will permit force to be applied from the air in a greater variety of circumstances and with a far broader range of effects.
Force application in the future will also have to encompass stabilisation, reconstruction and humanitarian assistance operations.

With respect to force generation and sustainment, this function has two distinct domains: operational-level combat support and strategic-level air power generation and sustainment. These have to act in tandem to generate air power effectively. Combat support is not a single-Service exercise.

The Air Force, as a partner in joint, combined and coalition operations, will work seamlessly through the network to ensure mutual support. Combat support is critical in an expeditionary context and needs to be responsive and flexible to ensure maximum operational efficiency.

Air power generation and sustainment is closely linked to a number of factors, like our relationship with our allies and coalition partners, our dynamic organisation, our capacity to recruit and retain the right people, the ability to transition to new systems and processes at the appropriate tempo and the underpinning capability of command and management.

**Conclusion**

What I have said so far is the way forward for the Air Force as we see it, within the broad framework of the FJOC.

However, the introduction of new systems, as attractive as they appear, is not without its own risks. These risks must be identified and properly managed.

The delivery of the capabilities mentioned in the Future Air and Space Operating Concept hinges on the Air Force’s ability to introduce into service and optimally operate these new systems while continuing to deliver air power to the joint campaign, when and where required.

We will need a bigger Air Force than we have now to do this.

Our FASOC, which is completely aligned with the FJOC, enunciates the concept that we believe will enable the Air Force to create the most appropriate air power effects within the context of a national effects-based approach in support of Australia’s security and national interests.
What are the Most Likely Military and Wider National Responses that May be Required Over the Next 20 Years?

Deputy Commissioner John Lawler, APM, Australian Federal Police

Law enforcement perspective

Over the last eight or nine years, law enforcement and the Australian Federal Police (AFP) in particular have played a much larger role in the national security space. This has been in response to the broadening of the range of threats to national security from various non-state actors, including terrorist organisations and transnational crime groups.

This has been a global phenomenon and as a result, definitions of national security have been undergoing various revisions, including concepts such as human security (security of the people as opposed to security of the state), comprehensive security and the UN concept of collective security.

From the Australian perspective, we have seen not only the impact of the specific criminal activities of transnational crime groups such as people smuggling, drug trafficking, money laundering and arms smuggling, but also their ability to corrupt and destabilise fragile states. These groups are opportunistic by nature and have shown the ability to adapt to and exploit for criminal profit both global trends and specific local conditions.

This means that the next 20 years will almost certainly bring forth criminal challenges to national security that we cannot yet envisage. The AFP is well placed to cope with that environment.

In the last few years, the AFP has developed environmental scanning, scenario analysis and strategic intelligence capacities to enable us to identify those emerging challenges and incorporate them into our planning. We have ensured that our corporate processes and strategies maximise our flexibility and agility as an organisation, and have therefore been able to absorb a number of major additions to our responsibilities, while continuing to deliver successful outcomes for the Government and the community. We are strongly committed to developing partnerships with a range of agencies nationally and internationally and in both the public and private sector in order to effectively confront the complexity of the challenges that we face. The Australian Defence Force (ADF) has become one of those key partners in recent years and will continue to be so for the foreseeable future.

I would like to comment more specifically on three key areas relevant to that partnership.
Stabilisation operations

The reason for referring only to stabilisation operations here is that police are not warfighters and certain security environments are not as receptive to policing roles or to the retraining of local police forces. Within the broader threat spectrum there is a threshold beyond which it is not effective to send in law enforcement specialists. The difficulty is more in getting the timing right, based on the security environment, as to when the military play a lead role (as in Timor) or when the AFP can play a lead role (as in Solomon Islands) in offshore missions. This generally occurs either in a preventive deployment or in a post-conflict environment referred to as a stabilisation operation.

Stabilisation operations require an ability to rapidly deploy forces to restore rule of law and civil authority, protect ‘at risk’ populations and, if necessary, evacuate Australian citizens and other nationals from danger and violence. Defence and the AFP have distinct capabilities and capacities to assist in stabilisation tasks, and to support each other. Both organisations are enhancing their own capabilities in this area in recognition of the importance these capabilities provide to Government. Neither could satisfactorily conduct the full range of required tasks alone. Rather the best results can be gained from joint operations, in which the skills and abilities of each organisation can be integrated into a cohesive whole.

Recognising the continued high likelihood of such stabilisation operations within the region in coming decades, such as those conducted in East Timor and the Solomon Islands, the AFP and ADF are improving their collective abilities to work together, with a focus on coordination between agencies, and on developing common understandings in doctrine, training, integrated planning, logistics and capability development.

A major impetus for the increased cooperation between the AFP and ADF was the almost simultaneous events of rioting in the Solomon Islands and in Timor Leste in May 2006. Following the initial response to these events, the ADF and AFP went to the Government with proposals seeking to address concerns over the capacity to deal with any similar situation of concurrency in the future.

Therefore, in August 2006 the Australian Government announced a $493.2 million funding boost for the AFP’s International Deployment Group (IDG). The funding will allow the IDG to increase its staffing levels to 1200 over the next two years and allow the AFP to send more officers overseas. Those officers will help ensure the stability of Australia’s neighbouring countries, strengthen law enforcement capabilities across the region and further address the threats of transnational crime and terrorism. This includes the establishment of an Operational Response Group comprising 150 members able to deploy at short notice in response to law and order issues.

Along with this development, and the announcement of establishing two more light infantry battalions there has been further refinement of joint planning and personnel exchanges between the AFP and the ADF to support offshore deployments. Embedded liaison officers and joint working groups are being established to ensure the current cooperation between our organisations becomes even more integrated and dynamic.
As a final point on this area, as part of our preventive measures, the IDG also contributes to law enforcement intervention and capacity building programs in countries of the region. These programs are funded by the Law Enforcement Cooperation Program, AusAID development funds or in cooperation with other AFP functional areas. This includes current projects underway in Timor, Vanuatu and Nauru.

**Counterterrorism**

Terrorism is accorded the highest threat priority at present and will be an enduring aspect of the future security environment. Much work has been done by security agencies towards improving coordination and developing capabilities that can best prevent and respond to terrorist activity.

The AFP has a broad mandate with regard to counterterrorism, including responsibility for national and international coordination of law enforcement intelligence and the investigation and subsequent prosecution of terrorist activity, threats and incidents. The call-out of the ADF actually comprises a fairly specific component of national counterterrorism activity.

Domestically, the AFP’s relationship with the ADF during a call-out is governed by s. 51F of Part IIIAAA of the *Defence Act 1903*, the procedures of the National Counter-Terrorism Handbook and the broader concept of primacy of the civil power. These procedures ensure that international and national intelligence, law enforcement, military, evidential and forensic expertise is available throughout any response to a terrorist incident.

More broadly, preventing and countering terrorist activity includes components such as aviation security, port security, offshore maritime security and protection of critical infrastructure. To provide security or a response to a threat in these areas provides scope for ADF involvement particularly where they have the sole expertise and capability to perform such highly specialised protection and response tasks.

Offshore there is scope for further regional exercises where both Australian law enforcement and the military play a role in training and working with counterpart security agencies. A centrepiece for regional law enforcement cooperation is the Jakarta Centre for Law Enforcement Cooperation (JCLEC) in Indonesia which continues to provide a bilateral forum to establish regionally consistent investigative practices through training initiatives. Since it was opened in 2005, JCLEC has hosted 85 courses with 1900 participants receiving technical training. The Australian Government has allocated $36.8 million to develop this initiative over the five years to 2009.

Through JCLEC and other programs, the AFP is working to build investigative capacity in Indonesia, the Philippines and Thailand through the provision of technical investigations and forensic training.

Of interest now and in the future is the trend towards the use of technology to engage in or support terrorist activity for communication and financing.
Terrorist activity can include electronic attacks on national information infrastructure, on banks and share market networks. The disruption on society and the economy through such methods, while not as gruesome as bombings or killings, nevertheless can further the objectives of such terrorist organisations to cause harm and fear in the community.

Therefore the ability to identify, monitor and then intervene when terrorists use the Internet, Voice over IP (VOIP) or electronic transfers of funds will become an ever-more critical component of the response by governments and security agencies, including the AFP and Defence.

Another key issue for the future is the prospect of terrorists obtaining and using chemical, biological, radioactive or nuclear (CBRN) materials. The potential for this has been reflected in the establishment within the AFP of the CBRN Data Centre (which officially opened on 2 July 2007).

The Data Centre will provide real-time technical advice and intelligence to law enforcement agencies and emergency services across Australia on prevention, preparedness and response issues related to the potential use of CBRN weapons or materials by criminals or terrorists.

The Data Centre will also support relevant parts of the private sector and provide occupational health and safety advice. Linked to the CBRN Data Centre is a Mobile Forensic Laboratory which includes a Chemical Warfare and a Microbiology Scientific Officer.

**Emerging security threats**

While stabilisation operations and counterterrorism activities have received considerable priority in recent years, the AFP retains a central focus on tackling transnational crime and is also taking much more interest in its environmental scanning and strategic planning of emerging security threats.

The significance of transnational crime is that many of the more organised players and syndicates are generally involved in other illegal activities—this can include supporting terrorist activity, money laundering, drug trafficking, people smuggling and so on.

Recent advances in technology for data transfer and for communication such as VOIP make this easier while more recent developments such as biometric identity security measures and transport hub screening procedures make some forms of criminal activity harder.

The impacts of the technological revolution in terms of biotechnology, nanotechnology, materials and information technologies are the subject of much literature and while these will have profound effects on society, the security implications of many of these developments are yet to be realised.

Of increasing interest to law enforcement is the impact of events such as a pandemic or many of the potential impacts of environmental changes. The capability of security agencies to respond to natural disasters and terrorist attacks is planned for through national emergency planning frameworks and exercised regularly but the potential of climate-related threats brings new challenges.
In terms of resource scarcity, we could see illegal movements of people for reasons other than risk of religious or political persecution. Water scarcity and malnourishment in parts of Africa, the Middle East, South Asia and China could all lead to mass migration flows, including to Australia. Recent coverage of rising sea levels and melting icecaps needs to be evaluated carefully but hypothetically the impacts of such developments would lead to additional security challenges that we do not presently face.

An increasingly integrated international economy might also be more susceptible to shocks arising from such issues, although the experiences of the Boxing Day tsunami and the damage to New Orleans give us some indications already of how larger scale natural disasters impact upon the resilience of local and regional communities.

Conclusion

These three areas I have covered indicate a need for increased cooperation between national security agencies. The linkages on the first two issues of stabilisation operations and countering terrorism are with us now and more work is being done to enhance capabilities and coordination.

It is this third area of emerging security threats that has the most variability in the future and the ability to be far more encompassing and demanding on the requirement to coordinate between agencies to get the best mix of capabilities and response to meet the demands of the Government and the community.

However, the prospect of terrorists developing sophisticated capabilities to cause widespread harm through either CBRN or technology-based attacks on critical infrastructure is a part of the future security environment that we discount at our peril.

Deputy Commissioner John Lawler, APM, is a career law enforcement officer, having served 26 years with the Australian Federal Police (AFP) at the community policing, national and international levels. He has extensive experience in a wide range of law enforcement disciplines in Australia and overseas, including his two year posting in 1997 to the United States as the Senior Liaison Officer to Washington DC. In the course of his career, Deputy Commissioner Lawler has performed a number of key executive roles in the AFP, culminating in his appointment to Deputy Commissioner in July 2004.

Deputy Commissioner Lawler has been awarded the: Australia Day Medallion in 1997; National Medal in 1997 and clasp in 2006 for 25 years of diligent service; ACT Emergency Services Medal in 2003, Australia’s highest law enforcement award; the Australian Police Medal in 2003; Commissioner’s Commendation for Conspicuous Conduct in 2004 and the AFP Operations Medal (Operation Sorbet) in 2005.

Deputy Commissioner Lawler holds a Graduate Certificate in Business Banking from Monash University and is a graduate of the Australian Graduate School of Management, Managers Program at the University of New South Wales and is a member of the Australian Institute of Company Directors.
What are the Most Likely Military and Wider National Responses that May be Required Over the Next 20 Years?

Mr Michael Pezzullo, Deputy Secretary Strategy, Department of Defence

The points I want to make relate to the sorts of national and, indeed, military responses, that we will be making over the next 20 years. Firstly, from the point of view of our military, regarding Australia’s use of application of armed force, inevitably it will go to what is the nature of armed force and extension of statecraft. I want to put some remarks around that.

Secondly, without trying to be too predictive about it, because I think that there are inherent dangers in saying that there are strategic surprises around the corner and then saying ‘and here’s what they are’ because by definition then they are not strategic surprises. Without being predictive about it, the types of operations that Australia will be applying armed force in certainly over the next five to 10 years and possibly as far out as 20 years, I think are broadly discernible.

Thirdly, I want to talk about how military power is to be applied in partnership with both other countries within national jurisdictions with other agencies and also within the Australian Defence Force in a joined-up fashion. I will come back to partnerships at the end.

So let me start with military powers and extension of statecraft. You sometimes see in the literature and hear in the debates a sort of purist’s model of military power as an extension of statecraft. Military power is best applied and is most efficiently and effectively applied when it is shaping, deterring and, indeed, ultimately defeating threats posed by other militaries. In a simple sense that is probably right. If you needed a fleet to catch fishermen or apprehend people-smugglers or provide slightly heavier tactical response capability and support of the police, you would not design the Australian Defence Force that we have. You would design something else, something more in what is sometimes called the paramilitary zone or the constabulary zone. Indeed, there are choices to be made there about putting some of those capabilities at the high end of some of our law enforcement and other national agencies. So the intrinsic reason why you want and have militaries is actually to fight other militaries. That is their bottom-line purpose.

However, the purist interpretation of why military force exists, I think, should not be too self-satisfied because for thousands of years, indeed, going back to biblical times, if you are in the Judaeo–Christian tradition or before, militaries have been used for political purposes not associated with the defeat of other militaries.

Roman legions were used for political purposes, local military governors were used as political instruments by Rome, for instance, in the ancient world. So I think there is a self-satisfying
sense of what military forces can be used for if you only say that they are there to shape, deter and ultimately defeat other militaries. In that context what that means for Australia is that we need to think very carefully about the circumstances in which we as a nation might need military power to shape, deter or defeat other forms of military power which inevitably are going to be wielded by states. That is the definition of what military power is. Then we need to build in either to our force structure or make deliberate choices about the things that we are not going to build into our force structure, a capacity to apply that military power in support of non-strictly traditional military purposes. Things like support to police agencies in counterterrorism tactical response, or in the case of hostage resolution situations, the Navy supporting customs and our border agencies, et cetera.

So you make deliberate choices around that, and I do not think that there is a golden rule or a golden algorithm that tells you how to make that choice. Each capability choice needs to be weighed and assessed on its own merits. But you should never move away from the idea that the bulk of your investment ought to be going into a military that is designed to fight other militaries because if it is not, then you should divert your resources into other sectors, including may I say, the Federal Police.

I will leave that point there, but that then leads to my second point which if you take that premise as being fundamentally sound, what are the kinds of operations that Australia will be either applying military power in a leadership sense, where military power is the decisive force that is achieving national ends, or in a supporting sense where military power is backing up other instruments of national power? Clearly the Government’s view as articulated both in the foundational policy that underpins the development of the ADF, the 2000 White Paper, but also the Defence Updates that have come out since and other pronouncements, makes it very clear that certainly over the foreseeable future and perhaps in some cases out to 20 years, military power will be used in support of our objectives in countering and defeating terrorism. In that I intertwine the conduct of counter insurgency operations.

We certainly would apply military power in support of our objectives around defeating the proliferation of weapons of mass destruction, particularly those that would come into the hands of non-state actors who would be willing to use them or, indeed, state actors who frankly do not particularly worry about whether they wake up the day after.

Thirdly, we will almost certainly be applying military power five/ten years out, and possibly 20 years out, in relation to the stabilisation tasks that Commissioner Lawler referred to (pages 83–87), and that is particularly in relation to intervention operations to prevent the breakdown of order within so-called fragile and, indeed, failed states. Commissioner Lawler referred to the very close collaboration and cooperation that our two forces have in terms of building their interoperability protocols, procedures and capacities to operate jointly in relation to those stabilisation operations.

Commissioner Lawler also touched on the fact that in some cases the operational risks faced require an ADF first response because of the nature of the adversary’s capability and their willingness to use higher capacities of violence, and in other cases the police might well go in first to resolve a situation in the knowledge that either just around the corner or over the horizon is decisive military force that can resolve a situation if it gets out of hand; even for the strengthened police capability.
So those operations inevitably, for at least the next five or 10 years, are going to be ongoing. You hear about the long war against terrorism, you hear about the risks and concerns we have around weapons of mass destruction proliferation and you know through the literature of the increasing prevalence of problems around fragile states.

But sitting behind all of that, you need to have regard, if you are a defence planner, to the possibility of the need to apply military power in a more classical state-on-state environment. Once you start losing those skills and once you start degrading that skill base, it is enormously hard to recover that. Some countries, particularly after the end of the Cold War, that started to shift their militaries in the direction of peace enforcement and peacekeeping agencies, more designed to work in a multi-lateral environment, particularly under UN auspices, have found since September 11 a desperate need to rebuild a classical warfighting capability, and some very hard lessons have been learned by some militaries in the last five years.

So juggling those imperatives of non-traditional, non-state actor-based threats, and using military power to either counter or defeat those, whilst always retaining a capability edge and professional mastery in relation to classical state-on-state warfighting is a matter for judgment around particular capabilities and that is what engages us every day in the capability planning and development game.

Now all of that then leads me to my third point: which is even the superpower, the United States, cannot do any of those things on its own. So no one should think that we can. The United States and others have placed a premium in recent years on building coalition partnerships, within national jurisdictions. Australia, the United States, Britain and other like-minded nations have placed a lot of emphasis on what you might call non-traditional linkages. The kind of linkages that we talk about between the Australian Defence Force and the Australian Federal Police are an example of that.

Then within militaries, the thought of just fighting domain by domain, be it maritime, land or air, in separate compartmented bubbles, is itself anathema to the kind of horizon that I think is presently before us. So your militaries need to be able to fight jointly, they need to be able to operate either as leaders of or contributors to a framework which often will have non-military agencies associated with it, be they paramilitary agencies, constabulary agencies, aid agencies, diplomatic services and the like. Nations need to similarly be able to flexibly arrange themselves in terms of response packages around particular problems where some nations will lead and create the framework, and other nations will contribute various elements to that package. In other cases, nations like Australia in its near region, will, with the invitation of the local government, more often than not take a leadership position. Yet other nations will fold in and support them, either directly or indirectly through enabling support.

So at each level within militaries across national jurisdictions, and in Australia’s case across our federal jurisdictions, but also internationally across coalitions and multi-lateral operations, the need to be interoperable, the need to plan jointly and the need to share information, is very much becoming paramount.
Mr Michael Pezzullo took up the position of Deputy Secretary Strategy in the Department of Defence in January 2006. In this role, he is responsible for defence strategy and planning, the strategic policy aspects of Australian Defence Force operations, Defence’s international security relationships, the delivery of national security programs in areas such as export controls, counter-proliferation and Defence cooperation with other countries.

Mr Pezzullo joined the Department of Defence as a graduate in 1987. He worked in Defence until 1992 in a variety of strategic policy and intelligence positions. He then transferred to the Department of Prime Minister and Cabinet, where he worked in the International Division. In March 1993, he joined the staff of the then Foreign Minister, Senator the Hon Gareth Evans, QC. He remained in Parliament House until December 2001, including serving five years as Deputy Chief of Staff to the Leader of the Opposition, the Hon Kim Beazley, MP.

In February 2002, he rejoined the Department of Defence as an Assistant Secretary in the Corporate Services and Infrastructure Group. In March 2004, he was promoted to the position of Head Infrastructure. In July 2004, he was transferred into the newly formed role of Chief of Staff Australian Defence Headquarters and Head of Coordination and Public Affairs Division.

Mr Pezzullo has a BA(Hons) in History from Sydney University.
Will Australia have the Economic, Industrial and Workforce Skill Base to Support the ADF in 2020 and Beyond?

Mr Geoff Fary, Executive Director of the Association of Professional Engineers, Scientists and Managers, Australia (APESMA)

Mr Fary spoke about the workforce demands for professional and skilled personnel. There was no formal presentation, but this is a summary of his main points.

APESMA represents the employment and career interests of technology-based professionals. The membership includes engineers, scientists, architects, pharmacists, vets and managers. The association is over 60 years old and covers both the private and public sectors. Today, APESMA has around 25,000 members and a further 20,000 affiliates.

So what are the key trends in ‘technology-based’ professional employment?

On the demand side, the need to develop infrastructure has meant a rapid increase in the need for qualified professionals to both manage large and complex projects as well as work on them.

There is an anticipated expenditure of $500 billion in Australia alone over the next decade. In particular, major road, rail, power, water, and telecom infrastructure projects are all in the pipeline.

There is also a global demand—I cite examples of Iraq, the Asian tsunami and Hurricane Katrina rebuilds. The BRIC (Brazil, Russia, India and China) economies are booming and have a strong demand for the Australian professional workforce in particular.

At home, the resources boom and an ADF requirement of some +2000 engineers is also impacting on the professions.

On the supply side, the demographics of the professional workforce are changing for the worse. Graduations over the last decade have remained static. We have seen engineering faculty closures, with many students also turning to double degrees such as law/commerce/MBA and so on. Our young people have an attraction to the overseas market with some 60 per cent of 2006 graduates reporting an intention to work offshore in the next two years. Generation X and Y have a greater preference for the proper work/life balance provided by the more regulated labour markets and in this regard the negative impact of WorkChoices is also beginning to be felt.
With respect to attrition, only 30 per cent of university entrants remain in their chosen profession after 15 years. The figure is even lower for women. With ageing baby boomers approaching retirement age, the situation is likely to become more severe in the next five to 10 years. In one sub-discipline alone as an example, the statistics show that in 2006, 1800 civil engineers left the profession while only about 900 entered.

**What are the impacts on remuneration?**

Employers are responding to the shortage by offering increased remuneration to attract and retain skilled professionals. Salaries have increased by between 10 to 15 per cent per annum in recent times, way outstripping the CPI. Some state governments are paying retention payments of around 30 per cent. We are also seeing accelerated reclassifications in public sector employment. Expect a recruitment scramble in the next 18 months! Incentives currently on offer include:

- Sign on bonuses,
- Completion bonuses,
- Additional leave,
- Phased retirement,
- Professional development, and
- Pre or repayment of HECS fees.

**What are the emerging issues in professional employment and skills development?**

There are a number of things we can do to help develop the required professional skill base. We must encourage post-retirement mentoring—use those professionals leaving the workforce to mentor those entering. Second, sponsored courses targeting specific skills shortages e.g. pavement engineers in the civil engineering stream. We can also draw on the hidden pool—over 5,000 unemployed, those from non-English speaking background (NESB) and particularly the over 45 redundancy recipients who are willing to re-enter their original profession.

**Some suggestions to address the skills crisis**

To conclude, I offer a number of suggestions to help alleviate the professional skills crisis.

First, we need to do more to attract our young to study mathematics and science in our secondary schools. Second, we need to better articulate TAFE and degree courses to encourage a seamless transition to the higher qualifications. Third, we need to put more effort into developing our NESB and female workforce. They are a great untapped resource at present. Fourth, Government needs to support post-graduate training and provide incentives for employers to facilitate such training. Fifth, as always, pay matters and so more competitive
remuneration packages are needed to encourage students to enter and remain in the technology-based professions. And finally, reduce HECS fees for all technical professionals in short supply, including engineers.


Mr Fary’s professional affiliations include the: Industrial Relations Society, Victoria—President; Australian Institute of Management; Australian Human Resources Institute – Fellow; Evaluator—Australian Business Excellence Awards Foundation; Accredited Training Provider—Training Guarantee Act; Associate Trustee—Committee for Economic Development of Australia 1996–2003; Executive Committee—Committee for Melbourne; 1986–1990.
Will Australia have the Economic, Industrial and Workforce Skill Base to Support the ADF in 2020 and Beyond?

Mr Duncan Lewis AO, DSC, CSC, Deputy Secretary, Department of the Prime Minister and Cabinet

Introduction

This is a complex question and the answer is heavily dependent on what we mean by ‘support’. I will outline briefly some of the changes in the global economy; how these changes will impact Australia’s economy; how demographic changes will challenge us; and what this means for defence industry in Australia.

The nature of industry support, and the types of operations the ADF may be required to undertake are changing and will continue to evolve. But the short answer to the question—Will we have the economic, industrial and workforce skill base to support the ADF in 2020?—is yes. Beyond 2020? Probably, but almost certainly in a different way to the manner in which support is currently provided.

Context

There has been no shortage of policies, reports and plans over the last two decades to address local industry support to the ADF. I believe that the new Defence and Industry Policy Statement 2007, the latest of these, provides a balanced approach to our challenges.

2020 is barely a decade away. Many of the major defence acquisitions underway today will be entering service before then, including the Joint Strike Fighter (JSF), Air Warfare Destroyers and Amphibious Ships. Major local industry involvement in the Air Warfare Destroyers and the NH-90 and Tiger helicopters will combine to provide a solid foundation on which to build, develop and sustain capabilities in the future, and for Australian industry to compete internationally. Similarly, our strategic environment is unlikely to change dramatically by 2020—notwithstanding unforeseen strategic shocks.

Without question, future Australian Governments will remain committed to supporting an ADF capable of operating in multiforce theatres of operations, capable of operating in concert with allies, and with the capability to respond rapidly to crises in our immediate region.

However, the question of how the Australian economy supports the ADF after 2020 is more complex. It is important to consider what industry and workforce ‘support’ might look like beyond 2020. We should not assume this means an indigenous industry capable of designing,
manufacturing and supporting multiple leading edge weapons platforms. Globalisation, increases in the cost and sophistication of weapons systems, and the consolidation of the global defence industry means that the primary role of Australian defence industry will be to support, sustain and improve existing platforms, and compete as part of the global supply chain.

It is also important to consider what the Australian economy will look like in the future. The Inter-Generational Report (IGR) 2007 identifies a variety of challenges to Australia’s fiscal sustainability over coming decades. An ageing population, declining fertility rates and rising life expectancies will change substantially the demographic of the Australian population. For example, in 2007 there are five people of working age to support every person aged 65 and over. Projections suggest that in 40 years there will only be 2.4 people of working age to each person aged over 65, i.e. half the support base.

The rate of ageing of the population will accelerate from around 2010 as the baby boomer generation hits retirement age. Currently, the proportion of people of traditional working age—15 to 64 years—is at the highest point in 40 years, and higher than it is projected to be for the next 40 years.

And while some measures—such as a rise in migration—will reduce the rate of population ageing, older Australians will continue to grow as a proportion of the population, resulting in increased government spending—particularly in the areas of health, age pensions and aged care. Put simply, the Australian Government will have to spend more in the non-defence arena than it currently does.

Economic growth per person is projected to fall as the proportion of people of traditional working age declines. The Australian Government’s fiscal position is projected to deteriorate due to a rise in age-related spending and other pressures, with a projected fiscal gap (the difference between revenue and expenses) of 3.5 per cent in 2046–47.

Although the IGR assumed no change in defence spending as a share of GDP to 2046–47, if government policy proves unable to absorb the projected long-term fiscal pressures, part of the burden of meeting those pressures may inevitably fall on defence spending.

Over most of the past four decades, defence spending has fallen gradually as a proportion of GDP. While defence spending has grown in real terms, the economy has grown faster. Future defence spending will depend on a wide range of factors, including the strategic environment and the cost of inputs into defence capability. As with all government spending, these factors will be balanced against fiscal constraints.

Education is a key determinant of an individual’s participation in the labour force and contributions to productivity. In the longer term, the Australian Government is projected to spend more money per student on education, but the proportion of GDP spent on education (currently about 1.85 per cent) is projected to fall as a consequence of population ageing. Ensuring that the Australian workforce has the skills to compete in the international economy will be a continuing challenge for future governments and for industry. We all recognise of course, that education serves a much wider purpose than a material one. It is about giving people the capacity to control their lives—make informed choices and so on.
Defence industry—Market consolidation

The global defence industry is consolidating—however, consolidation and rationalisation is happening across all sectors; defence is not alone. As the cost of defence materiel rises and with an increasing focus on interoperability and network-centric warfare, the global market is likely to consolidate further.

Partnering arrangements are increasingly common and are likely to continue to proliferate. Such arrangements offer both increased efficiency and shared risk for major, high cost projects—the JSF is a good example of this. This trend is likely to continue and, coupled with a probable increase in commonality in defence platforms, offers potential opportunities for Australian industry to win substantial work—but competition will be high.

Australian industry participation

Australia’s defence industry is an integral part of our national security. The Australian Government is committed to working in partnership with Australian industry to ensure an effective and sustained domestic defence industry, capable of supporting the ADF through both the development of capability and the provision of through-life support on major defence acquisitions.

But Australian defence industry is not an end in itself; rather it is a component of the support base for the ADF that includes both local and overseas suppliers and the stockpiles maintained in-country.

A key part of the Defence and Industry Policy Statement 2007 is the identification of a classified ‘Defence Industry Self-Reliance Plan’ that will outline the role of industry in equipping and sustaining the ADF in the event of credible contingencies. This will also include the identification of priority local industry capabilities—those local industry capabilities that provide an essential national security and strategic advantage.

Access to intellectual property is also fundamentally important to local defence industry. There are real benefits from having licensing agreements that allow Australian firms to compete to manufacture spare parts rather than having to acquire components from the original equipment manufacturer. For this reason, Defence will continue to actively seek appropriate intellectual property arrangements within contracts.

The Defence Capability Plan (DCP)—which is generally released to the public every two years—sets out Defence’s preferred major capital investment over a 10 year period. Although the DCP offers some degree of certainty to industry about our predicted capability requirements, it does have some inherent limitations when we consider the potential for rapid technology change and the evolution of warfighting concepts.

The Government has identified three initiatives specifically to assist Australian defence industry to compete:

- A new Australian Industry Capability program that will ensure that prospective suppliers on large defence projects will be required to address the scope for involvement by Australian industry;
• Leveraging major foreign purchases—specifically in multinational programs—to ensure that Australian industry is able to compete for work in the global supply chain; and

• Changes to ensure wider dissemination of information about upcoming procurements.

Small to Medium Enterprises (SMEs) account for about a third of Defence procurement and sustainment spending and are also often sources of innovation. A competitive and sustainable SME sector is an integral part of Australia’s defence industrial base. To support SMEs, prime contractors will be required to provide a supply chain management plan that sets out how they will engage SMEs and other sub-contractors in a sustainable manner.

**Workforce**

The Government introduced the *Skilling Australia's Defence Industry Programme* initiative to improve the levels of competency of existing workers and to ensure that defence industry has access to a pool of appropriately skilled workers.

The Government has committed $215 million over 10 years to the initiative, primarily to assist industry to achieve:

- the generation of more skilled positions;
- the up-skilling of existing employees; and
- an improvement in the quality and quantity of skills training in the industry.

However, many of the skills in defence industry are not necessarily unique to defence. As a result, defence industry is competing with other sectors for skilled workers. One of the challenges going forward is to ensure a balance between developing and retaining skilled defence industry employees, without driving inflationary workforce costs in the industry and competing sectors.

In an economy with near full employment, the Government is aware that decisions to pay a premium to support local defence industry need to be justified by Defence capability and operational needs. Without a clear benefit to Defence at least matching the premium, skilled workers could be deriving greater economic benefit for the economy working in other sectors.

The onshore build of the Air Warfare Destroyer, ongoing maintenance programs for Anzac Frigates and Collins Class submarines, participation in the Joint Strike Fighter program, and the development of the Wedgetail Airborne Early Warning and Control aircraft—to cite a few examples—should ensure sufficient skills in platform design and that systems engineers are retained to provide a base for future development programs.

Increased levels of skilled migration, particularly employer sponsored migration, could go some way to alleviating pressures in terms of labour shortages—but the proportion of people of working age will continue to shrink.
Competing in the global supply chain

Australian industry will have to work hard to compete in the global economy—our workforce will continue to face challenges from demographic and technological change; and industry will have to overcome incumbency and become export oriented to compete for market share in the global supply chain. Knowledge-based industry, design, technology and manufacture are the areas where Australian industry can be competitive globally.

Broader government initiatives—such as the Government’s recently announced 10 year $1.4 billion industry statement—will boost the competitiveness of Australian industry in the global market.

Productivity and innovation are fundamental to competitiveness in the global economy. Australian industry will need to innovate to win and retain new export markets, but the signs are promising—many Australian SMEs are competitive anywhere in the world. The Australian Bureau of Statistics estimates that there are around 42,000 exporting businesses today, compared to around 25,000 at the start of the decade. To compete, Australian industry will need to continue to focus on export markets and apply leading technology and business processes.

In summary, changes in the global economy, the demographic of the Australian population and the consolidation of the global defence industry will present challenges to how Australian industry supports the ADF in the future. However, I am confident that Australian ingenuity and innovation will ensure that an effective local defence industry—capable of supporting the ADF to meet future challenges—will be sustained. There are challenges ahead, but I believe that we will meet those challenges, and ensure an enduring, capable ADF that can meet Australia’s future security needs.

Duncan Lewis graduated from the Royal Military College and the University of NSW in 1975 and served for more than 30 years as an officer in the Australian Army including three tours with the Special Air Service Regiment. He retired from the Regular Army in 2005 as a Major General commanding Australian Special Forces. As a junior officer he served with UNTSO as a military observer during the 1982 Lebanon War. From 1990 to 1992 he commanded the Special Air Service Regiment, which included command of the National Counter Terrorist Tactical Assault Group. For his services as commanding officer he was awarded the Conspicuous Service Cross.

Duncan Lewis has served on the Army Headquarters staff as Director of the Defence Reform Program in Army and as the Director of Strategy and International Engagement. During the INTERFET deployment he was the ADF spokesman on East Timor. Duncan served as Army Attache in Jakarta from 1994 to 1996 and returned to Jakarta as acting Head of Defence Staff for a short period in 1998 following the evacuation of Australian nationals.

In January 2000 he was promoted to the rank of Brigadier and appointed Commander Sector West in the UN peacekeeping force in East Timor where he commanded the Australian and New Zealand forces on the border. He was awarded the Distinguished Service Cross for his command in East Timor. He assumed the appointment as Commander Special Forces in January 2001.
and in late 2002 became the inaugural commander of the newly created Special Operations Command. During his period as Commander Special Forces he was involved in the planning of a wide range of operations including deployments to Afghanistan, Iraq, East Timor and border protection operations including the seizure of the MV Tampa and the North Korean drug carrying ship, MV Pong Suo. For his service in command of Australian Special Forces, Duncan was appointed an Officer of the Order of Australia.

He is a graduate of the British Army Staff College, Camberley and the United States Army War College. He holds a Bachelor of Arts degree from the University of NSW and Graduate Diplomas in Defence Studies and Management from Deakin University. He is a graduate of the ADF School of Languages where he studied Indonesian.

On retiring from the Regular Army Duncan was appointed to the position of First Assistant Secretary of the National Security Division in the Department of the Prime Minister and Cabinet and in October 2005 was appointed to his current position as Deputy Secretary, Department of the Prime Minister and Cabinet. Here, he carries responsibility for coordination and advice to the Prime Minister on defence and intelligence, domestic security, international relations, APEC taskforce and government internal governance processes.
Will Australia have the Economic, Industrial and Workforce Skill Base to Support the ADF in 2020 and Beyond?

Dr Mark Thomson, Australian Strategic Policy Institute (ASPI)

In the short time I have available, I will address the question posed in terms of risk, taking workforce first.

Workforce risk

The risks associated with maintaining a military workforce of adequate strength are usefully divided into the near and longer term.

Near-term challenges

In late 1999 the Government announced that it was going to expand the size of the defence force by 3,500 permanent people for two years to sustain operations in East Timor. Defence was funded to deliver this expansion, yet two years later the defence force was smaller by 95 personnel.

In the year 2000, the White Paper established a new goal of 54,000 full-time personnel for the year 2010. To achieve this, average growth of around 240 extra positions per year was required. Yet today, seven years later, the defence force has grown to only 51,476, representing a shortfall of around 1,600 positions compared with what would be required to deliver 54,000 with uniform growth following the peak ADF numbers reached in 2002–03.

Nonetheless, late last year the Government announced a further expansion of Army that, along with several other recent initiatives, creates a new goal of a 57,000 strong defence force for the year 2016. (The target will grow to more than 58,000 once Stage-2 of the Enhanced Army Initiative is approved.) To achieve a strength of 57,000, average growth of close to 400 additional personnel per year is needed.

The planned year-by-year personnel strengths necessary to deliver the 57,000 end-state are set out in Figure 1 along with past goals and achievements. Note that the planned figures in Figure 1 are not year-by-year budget estimates set in anticipation of what can actually be achieved in the next year, but rather the progressive strengths needed to meet the medium term goals set for the ADF.

Somehow, the Government retains faith that Defence can deliver the extra people despite persistent shortfalls. Let’s hope that they are correct. Each year that Defence fails to close the gap between planned and actual personnel numbers, the more personnel numbers become a strategic vulnerability. There is little point investing billions of dollars in new equipment if we are not going to have adequate people to turn that equipment into effective combat capability.
The personnel problems facing Defence are as complex and diverse as the workforce itself. But in the final analysis, the problem reduces to the difference between Defence’s recruitment of personnel and the rate at which they leave the organisation. Accordingly, now turn to look at retention and recruitment before examining the Government’s approach and the prospects for improvement.

**Figure 1**: Planned and actual full-time military personnel strength.

**Figure 2**: Annual separation rates for the ADF 1974–2006.
Retention

First the good news. In terms of total numbers the rates of separation from the permanent ADF and the three Services are close to their 32 year averages (See Figure 2). The more severe oscillations reflect, to an extent, a response to changing levels of civil employment. Interestingly, the correlation is most closely aligned with the rate of change of unemployment.

![Graph showing ADF recruiting shortfalls as a percentage of annual target.](image)

**Figure 3**: ADF recruiting shortfalls as a percentage of annual target.

Recruitment

If ADF retention is broadly OK, it follows that the problem must be one of recruitment. And indeed it is. Over the past decade, ADF permanent recruitment has fallen below target by an average of 15 per cent (see Figure 3).

Long-term challenges

Prevailing wisdom holds that an ageing population will starve the defence force of adequate numbers of young recruits. While this idea or some variation on it is in common vogue, it is difficult to reconcile with the facts.

Australia does have an ageing population; over the coming decades the ratio of older to younger people will certainly grow. But the driver will be a growing number of older people rather than a significant fall in the number of younger ones. As Figure 4 shows, of the three projections issued by the Australian Bureau of Statistics for the Australian population, at no point between now and the middle of the century does the number of residents in the prime recruiting age group of 18 to 25 fall below two million. Whatever the problems Defence faces today with recruitment, demographics are not the issue.
Economic or Financial Risk

Defence plans can fall foul of financial risk in one of two ways. The plans can turn out to be unaffordable within the allocated budget, or the Government can change its mind. While the former can be fixed if the Government is willing to provide more money, there is no redress for the latter beyond plaintive lobbying. We begin with the question of whether there is enough money in the projected budget to deliver current plans.

**Is there enough money in the budget?**

Looking back to the 2000 White Paper, it is clear that the cost of delivering the planned range of new capabilities, and level of preparedness, far exceeded the allocated budget. Even taking account of some ‘capability creep’ in both sectors which exacerbates the situation, there simply was never going to be enough money. The estimates of 2000 were made before ongoing improvements to Defence’s financial processes began and well before the Kinnaird reforms to investment planning so the question is; how much better off are we today?

In terms of capital investment, the revised DCP of 2004 saw an average cost increase of 20 per cent for those projects that survived from the 2000 plan. These cost increases were accommodated within the DCP funding envelope through a combination of deferral and cancellation. In contrast, the 2006 DCP saw only an average 2 per cent growth in the cost of projects brought forward from the 2004 plan. This would seem to indicate that Defence has become better at estimating the cost of projects.

**Figure 4: Potential ADF recruits 2004–2054.**
This reassuring observation needs to be tempered by reports of cost increases in the Air Warfare Destroyer Project (up from an estimated $4.5–6.0 billion to more than $7 billion) as well as mounting pressures on the $1.5–2 billion Amphibious Vessel and around $3 billion Land Vehicles projects. Then there was the unanticipated $6 billion increase in the cost of maintaining the RAAF air-combat capability through the acquisition of 24 Super Hornet Fighters. So, while there may have been some improvement Defence’s ability to estimate investment costs, a systematic bias to underestimate appear to be alive and well.

Over the last three years we have been fortunate. Favourable economic conditions have swollen the meagre fiscal balance left from the last election to allow extra money for defence and other portfolios (not to mention a couple of tax cuts). We might not be so lucky in the next electoral cycle. Even so, with government coffers in projected surplus across the next four years, there is no cause for hand-wringing yet. This is about as good as it gets.

Even though deficits have arisen in 19 out of the past 34 years, there would be political damage to any government that went into the red. Rightly or wrongly, fiscal deficits have become synonymous with economic mismanagement. The infinitesimally thin line between surplus and deficit is a barrier that no government is eager to cross.

Thus, if the fiscal balance becomes finely poised after the election, we should not count on any extra money being easily available for defence in the near term. On the positive side, we have no reason to anticipate that the Government will reduce its financial commitment to Defence, on fiscal grounds that is, provided that Treasury’s projections materialise.

The news gets even better. According to the Treasurer’s 2007 Intergenerational Report (IGR), this relatively healthy situation should remain the case all the way out to the middle of the next decade. Figure 5 shows the fiscal balance projection from the IGR. The latest budget changes things slightly but we need not be concerned with such adjustments for our purposes.
The IGR estimated the fiscal balance for the Australian Government out to 2046 on the basis of projected trends in government expenses and assuming that revenues remain at 22.1 per cent of GDP. In the process, a sensitivity analysis of alternative scenarios for future population, participation and productivity was undertaken. Broadly speaking, the overall picture in Figure 5 remains qualitatively true, especially in the near to medium term. As far as slowly evolving demographic and economic factors go, the projection for the next decade looks robust.

Fiscal limits—the longer term

The IGR projects that, in the absence of policy changes, the fiscal balance will go negative around 2020 and steadily deteriorate to minus 3.4 per cent by mid century (Figure 5) creating a problem for future governments.

The IGR assumes that defence spending grows at a rate of around 2.35 per cent above inflation over the long term, which translates into roughly the same share of GDP in 40 years time as today. More pessimistic projections are possible. An ASPI analysis in 2003 estimated that maintaining an ADF of broadly the size and shape we have today would require spending growth of around 2.65 per cent per annum. This assumed that capital costs grew by 4 per cent, personnel costs by 2 per cent and military equipment operating costs by 3.5 per cent above inflation. Alternatively, the 50 year trend in Australian defence spending has been roughly 3 per cent real growth per year. The defence burden implied by each of the growth rates is plotted in Figure 6.

Even for the most aggressive assumed rate of 3 per cent per year, the end result is still a defence burden of less than 2.6 per cent of GDP by 2050. It follows that, unless the scale of the defence force increases significantly, the most pessimistic estimate amounts to a significant but not overwhelming 0.6 per cent of GDP of additional fiscal pressure above that already projected by the IGR.

![Figure 6: Estimates of the cost of 'steady as she goes' defence force.](image-url)
So how will future governments deal with a growing fiscal imbalance of between minus 3.4 per cent and minus 4 per cent of GDP? The IGR lists a series of non-exclusive options that current and future governments might pursue. These include policies to boost economic growth through higher workforce participation and productivity, reduced spending and/or more efficient delivery of government services and increased taxation.

There is little doubt that all three mechanisms will be employed to close the fiscal gap. It would simply be unsustainable to run an unending deficit by accumulating debt year after year. Fortunately, Australia has more room than most to accommodate increased spending through higher taxation (See Figure 7).

In fact, over the past 40 years, the long-term trend in total taxation in Australia has been growing at about twice the rate that would be necessary to close the IGR gap (Figure 8). Note that Figure 8 includes tax at all levels of government, including the GST.

More generally, Australia is in a better position than most countries in the developed world to deal with the impact of ageing and rising health costs (a notable exception is the high-immigration, low social spending United States). Not only do we have relatively favourable demographics, but our self-funded superannuation arrangements remove a sizable impost that hangs over many European governments. The fiscal problem that we face is decidedly manageable.

While Defence can be expected to do its part in belt-tightening over the coming decades, the adjustments necessary to close the fiscal gap will occur slowly and incrementally. With no action taken at all, the total tax take as a percentage of GDP will grow substantially over the next 40 years. For example, between 1979 and 2004, if no action had been taken, the level of taxation imposed by the Australian Government would have increased by 6.5 per cent of GDP—more than enough to close the future shortfall.

**Figure 7:** OECD taxation as a percentage of GDP 2004.
Conclusion

Australia is a rich country with solid economic prospects. We can afford to spend more on defence if we decide to do so. At worst, in the near-term we could face a tight fiscal situation that will see the Government carefully managing a small post-election surplus. This would constrain but not prevent additional spending.

On past experience, Defence will ask for more money yet again. Over the next few years it might be harder to grant their requests than in the recent past, but by no means impossible. Surprisingly, on past experience, a recession would not necessarily make it harder to grant their requests, and could even make it easier, especially if the government of the day saw defence spending as a viable route to stimulate the economy.

In the longer term, the slow adaptations necessary to find more money for health and aged-related spending will be made. Defence will have to play a role. Perhaps we will finally see a renewed emphasis of efficiency—if so, that would be a good thing. But none of this portends a fiscal crisis or an economic crunch.

Sustaining a defence burden of around 2 per cent of GDP (or even substantially higher) depends on one thing and one thing only: the government of the day’s commitment to do so. So long as the electorate judges that the investment being made in defence is commensurate with the threats we face as a nation, the money will be found. The risk is that the post-9/11 perception of imminent threat will be replaced by a post-Iraq appreciation of the limits of military power. Couple this with yet another round of large cost increases, and the Government’s generosity to defence could quickly turn to impatience.

Figure 8: Total Australian tax historical and projected.
Dr Mark Thomson began his career as an academic working in theoretical physics. As a scientist he held research and teaching posts in Australia and the United Kingdom.

In the mid 1990s Mark joined the Department of Defence and commenced work in the Force Development and Analysis Division scrutinising capability development proposals. Over the next five years he held a diverse range of jobs in the department that saw him working on budget management, organisational change and force development. In this period he deployed on operations as a Civilian Truce Monitor to Bougainville in 1997, and as Political Military Adviser to the INTERFET Commander in 1999.

In 2002 he joined the newly formed Australian Strategic Policy Institute (ASPI) as inaugural director of the Budget and Management Program. Mark’s research touches on a wide range of issues including Australia’s defence and security budgets, links between strategy and force structure, the internal management of the Department of Defence and defence industry.
Review Article

THE ASSASSINS’ GATE: America in Iraq

George Packer
Faber and Faber, New York, 2005
ISBN 0 571 23043 1

Reviewed by Professor Stephen Levine
Victoria University of Wellington

For every generation, one conflict emerges as the pre-eminent struggle of its day, the one that defines the way the world is perceived and understood. The last century saw a succession of such events—the First World War, the Civil War in Spain, the Second World War, the Cold War (what President Kennedy called ‘a long twilight struggle’), and the long-running war in Vietnam. Now, in this still new century, there arises a new challenge, one that tests our intellectual capacities as well as the resolve and judgment of leaders and the courage and calibre of the armed forces.

It was important—to say the least—to know, back in the 1930s, whether or not the Nazi regime in Germany represented a threat to the peace of the world and the values of tolerance and civility on which human survival so depends. This challenge—to recognise reality and to understand what is at stake—was one that many failed and that others met far too late.

For other conflicts, too, it is vital to know whether the cause is just, the sacrifice necessary, and success likely to prevail. It is not only in relation to sporting events that people need to know which side to support and whether the heroes are to be found in our uniforms or in those of our adversaries.

With the multiple and coordinated attacks of September 11, 2001, the dreams of a bright new century—the new millennium!—diminished, fond hopes darkening in the debris of devastated buildings in which thousands lay dead. The response was not long in coming. A failure on the part of the Afghan Government not only to assist in apprehending those ultimately responsible, who were based in that country, but even to express the slightest bit of remorse for what had occurred, could not but bring about a reasonably swift reply. The reaction—a dramatic counterattack in a newly declared ‘war on terror’, conducted with efficiency and a degree of flair—was widely accepted internationally as appropriate, a legitimate use of force at a time, indeed, when a failure to respond would have been an abdication of responsibility.

Of course, wars are not waged and won simply because opinion is agreed that ‘good’ is on one side of the battle and ‘evil’ on the other. If that had been the case, then the Nazi regime would not have taken so long to confront and nearly six years to overcome. Nevertheless it
does help to have a unity of purpose and a firm conviction about the validity of one’s cause—as was the case with Afghanistan—particularly in democracies with a free news media and an elected leadership accountable at regular intervals to the voters.

The second great war of this new century now rages in Iraq. George Packer, a journalist, has travelled there, repeatedly—as he says, ‘this is mainly a book of reporting’—and his mission, really, was to find out for himself, and secondarily for his readers, whether this cause was indeed just, the increasingly bloody sacrifice necessary, and the outcome likely to succeed.

For most people, I would suspect, these are questions either too difficult to confront or too simple to think very seriously about. In general, the further away from the United States, the greater the degree of certainty—the war is illegal; the loss of life inexcusable; the overall mission (whatever that may be, whether finding weapons of mass destruction or establishing a new democracy) utterly futile. For others, sensitive to a world in which ambiguity is more common than clarity, establishing what the war is about and how it seems likely to end is a bit more problematic. This book, The Assassins’ Gate, is for such an audience.

While it is difficult to identify a single volume as absolutely the one essential work that ought to be read about a topic—it would be necessary to read all the others even to begin to make such a claim—Packer’s account is a remarkably powerful piece of political journalism. There is scarcely a page in it that is not marked by vivid vignettes and startlingly superb turns of phrase. It is a kind of grim modern ‘Arabian Nights’, with the author a contemporary Scheherezade. Every chapter is crammed with stories, their outcome—the ending, for the individuals concerned and for the country they inhabit—continually deferred, as the book weaves its way towards a conclusion while Iraq slides deeper and deeper into chaos. Meanwhile the author pauses from time to time in his recitation, able to survive in Iraq for another day.

The book’s at times grisly narrative reminded me of a conversation overhead on a bus at about the time that televised accounts of beheadings (with footage posted on the Internet by the murderers) were at their height. A woman was telling her companion, in a voice that easily carried, filled with emotion, that she had lost the capacity to watch or listen to the television news. The nightly decapitations, proudly and cold-bloodedly executed against bound hostages, had become too much for her.

So there are genuine mental and emotional obstacles in the way of a clear focus on the Iraq War. Far easier to put matters in the ‘too hard’ basket or in a ‘far too easy’ pigeonhole in which Messrs Bush and Blair (with support from Australian Prime Minister John Howard) bear much of the blame. But George Packer, a thoughtful and (on the evidence here) thoroughly decent man, provides a reminder that the war in Iraq had strong support at the start from others—people of principle, idealists, Iraqis themselves.

It is, in a sense, true that, as President George W. Bush said after the fall of Baghdad and the overthrow of the Iraqi President, Saddam Hussein, the mission had been ‘accomplished’. The difficulty was that this was true only in the narrow sense of the mission being nothing more, nor less, than the removal from power of an obstinately arrogant and in some ways anachronistic ruler. His fall, and that of his family (including his homicidal sons), is largely un lamented. But there were other missions—other rationales for war—and these were not so easily ‘accomplished’.
What went wrong? There are a number of different perspectives that can be brought to bear on such a question. The contrast between the careful preparation for the post-war occupation and reconstruction of Germany and Japan—enemies with entrenched and fanatical ideologies constructed around the glorification of violence and the subjugation of others—and the banal self-propagandising in respect of Iraq represents almost a ‘case study’ in the dumbing down of America. Much the same can be said about the at times dim-witted administration in Washington.

The Iraq War is, beyond question, the defining event of the Bush administration. It was its initiative, one supported by some others—a loosely-assembled ‘coalition of the willing’ and not-so-willing—but nonetheless a war conceived, gestated and born in Washington through the efforts of a very small coterie of decision-makers situated in the Pentagon, the Vice-President’s office and the White House. The war in Afghanistan, like the war against Japan—begun by an adversary through a surprise attack, dramatic and deadly—required no soul-searching decision. The first Gulf War against Iraq likewise was clear-cut, a collective response against a bold enemy that had sought, through conquest, to absorb a neighbouring population against its will.

The current Iraq War, by contrast, required calculation, consultation and communication—a case had to be made for it. President Bush has spoken of bringing democracy to Iraq, draping himself in Wilsonian clothing, but Woodrow Wilson’s rhetoric about ‘making the world safe for democracy’ came about in respect of a war already underway rather than one he had been considering initiating. Indeed, a better understanding of President Wilson’s outlook might take as its point of departure his famous remark in relation to the United States’ southern neighbour, as when pressed to respond to cross-border incursions he observed, to much criticism, ‘there is such a thing as a man being too proud to fight’.

Thus one approach to understanding the Iraq War is to see it as an exercise in presidential leadership. It is one of the ways in which Packer’s book is so devastating. There may yet be a book that shows the deep intelligence that President Bush brings to his endeavours, but this is not that volume. Not that President Bush is particularly on-stage all that often; much of the work in developing the case for war, and in devising the means to carry it out, is worked out by others. But the US President is at the apex of the country’s political system; ultimately responsible, he sets the broad lines of policy, gives direction, and is accountable—as President Kennedy was, in the aftermath of the failed Bay of Pigs invasion of 1961—even when merely giving credence to the collective voice of his advisers.

I had the opportunity to read an extraordinary new book on Abraham Lincoln—generally regarded as America’s greatest president and a figure of monumental importance from an ethical and human standpoint as well—written by a long-standing observer of US presidents, Doris Kearns Goodwin (Team of Rivals: The Political Genius of Abraham Lincoln, Simon and Schuster, New York, 2005), at more or less the same time that I was opening The Assassin’s Gate. Amongst the insights into Lincoln’s leadership two in particular stand out.

The first was that Lincoln (as with Kennedy following the Bay of Pigs) displayed a ready willingness to accept responsibility, fully and publicly taking the blame when matters went badly wrong (as they so frequently did during the Civil War). The second was that Lincoln, a
keen conversationalist, open to ideas, was astute enough, and in some sense secure enough, to be willing and able to accept contrary advice and dissenting points of view—not merely on points of detail, but on major life-and-death issues. There is one incident recounted, for instance, in which a senior military officer communicates a critical opinion to his commander-in-chief and at the same time offers his resignation for doing so. Lincoln summons him to the White House to insist that he remain at his post and continue to give his President his own best judgment of events and alternatives.

The contrast with Packer’s portrayal of President Bush could scarcely be greater. The comparison is appropriate, because Bush has often spoken of himself as ‘a war president’—bracketing himself with Lincoln, Wilson and Franklin Delano Roosevelt—and so a disposition to learn from the experiences of other US leaders in comparable circumstances ought reasonably to have followed. But it is difficult to say that this has happened.

In the Bush White House, those with contrary views either never received a hearing or learned very quickly that their views were unwelcome. Senior military officers providing what proved to be prescient advice about the numbers of troops required to secure a postwar Iraq saw their at times distinguished careers come to an end.

Here is Packer’s summary judgment of American leadership quality at the top, offered right near the end of the book: ‘I came to believe that those in positions of highest responsibility for Iraq showed a carelessness about human life that amounted to criminal negligence. Swaddled in abstract ideas, convinced of their own righteousness, incapable of self-criticism, indifferent to accountability, they turned a difficult undertaking into a needlessly deadly one. When things went wrong, they found other people to blame. The Iraq War was always winnable; it still is. For this very reason, the recklessness of its authors is all the harder to forgive.’

This is a stunning indictment, but it is not the same bill of particulars brought against the Bush/Blair/Howard war by their critics. It is not based on an outlook of anti-Americanism, or a premise that whatever the United States embarks upon must be in some ways irretrievably tainted, and nor is it an easy exercise in judgment that places an indifference to the lives of Iraqis side-by-side with a self-righteous critique of American clumsiness. It is, instead, an indictment of a different kind of ‘arrogance of power’, in which US policy-makers blunder and bluster, savaging their critics, mauling their inter-agency rivals, and not for the first time it leaves observers wondering how so much power can be wielded by so few with so little competence.

So, in the end, has the war in Iraq been worth it? Of course it is never easy to say that any inevitably transient political objective can be considered to be worth even a single human life. Thus it is all a matter of perspective. The book offers a judgment on the war from the point of view of Iraqis themselves:

During the worst of the violence, some Iraqis said that they had been better off under Saddam, that America should never have overthrown him if the result was going to be so much more bloodshed. Few Iraqis I knew ever said it, though.

Packer’s odyssey among Iraqis makes The Assassins’ Gate something of a travel book as well, as the author visits communities across the country, putting events in context and providing
mini-biographies of clerics, political leaders and ‘ordinary’ individuals and families in the Basra region, in Baghdad, and in the north, in Kirkuk. Shi’a, Sunni and Kurdish voices—both religious and secular—are heard in the book, their hopes, memories, fears, suspicions and hatreds eloquent testimony to the confusion of men and women caught up in an atmosphere of turmoil where casting a vote can be considered a capital crime and departure out the front door can be a step towards a graveyard: ‘Every morning we leave, and we don’t know if we will go home’.

A young Iraqi judge tells the author: ‘This is a battle, mister. And we’re all soldiers in this battle. So there are only two choices—either to win the battle or to die. There’s no third choice.’ An Iraqi woman, an Arab, appalled at the behaviour of her countrymen, says: ‘We want America to stay here and change minds, to teach what’s freedom, what’s human. That’s what our people don’t know. They are animals.’

These are voices seldom heard on the news media. Packer gives other Iraqis opportunities to be heard, providing portrayals of people prematurely aged through years of living under a brutal police state, quasi-fascist in deeds and demeanour, of Iraqis haunted by the spectre of sudden, violent death or the possible arrival of a new regime, resembling the old in cruelty and callousness. It was Iraqis such as these, as well as the coalition forces themselves, who have had to pay so high a price for US incompetence arising out of an indifference to the imperatives of postwar planning and the nuanced niceties of nation building.

*The Assassins’ Gate* also presents numerous portraits of soldiers trying to ‘do good’—untrained nation builders, in effect armed Peace Corpsmen—in difficult circumstances. There are casualties here, too, both physical and emotional, and they grow larger, as back in the US the author meets and befriends members of families of soldiers killed in Iraq, trying to make sense of their loss. These tragedies also complicate the picture, giving more subdued tones to the colour of war.

Offsetting depictions of the bravery, commitment and maturity of the soldiers in the field are accounts of the obstinate stupidity of those in command. One scene finds a Marine General rushing up to a US Senator, as he is leaving Iraq at the end of a visit, to shout at him, ‘Senator, if anybody tells you we have enough troops over there when you get back, tell them to go to goddamn hell.’

Packer’s assessment will be an interesting one for anyone who has ever been associated with the ‘profession of arms’ that the military represents: ‘The top civilians in the administration, and the top brass at the Pentagon, and the top [US] officials in Iraq all held on to their positions and failed the men and women they had sent to carry out their policy. They failed in the most basic obligation to give those men and women what they needed.’

The result—an Iraq in anarchy, a people in fear for their lives—is all too evident. How avoidable was it? Iraqis themselves are also responsible, more than mere victims. A culture of suspicion and inter-communal hate and prejudice is hardly conducive to peace, democracy and a new birth of freedom. A tribal sheikh tells the author: ‘We Iraqis have a nature, which is revenge. If my cousin kills my brother, I have to kill him.’
In this not-so-innocent environment even armed and dangerous outsiders need to tread warily, and it seems only prudent to have at best limited and tentative expectations. Packer observes of US Vice-President Dick Cheney that, ‘like the President, Cheney maintained an almost mystical confidence in American military power.’ Others will be more sceptical.

And for others, it is not the end—the outcome, still far off and unknowable—but the beginning that matters. For those so inclined, alas, Packer offers little hope:

Why did the United States invade Iraq? It still isn’t possible to be sure—and this remains the most remarkable thing about the Iraq War … The answer has something to do with September 11. But what, exactly?

Stephen Levine is Professor of Political Science at the Victoria University of Wellington. He has written extensively about New Zealand elections and politics, and has also published on New Zealand’s defence and foreign policy choices. Since 2002 he has been a guest lecturer in the Australian Defence College’s Centre for Strategic Studies.
Book Reviews

FUTURE WAR IN CITIES: Rethinking a Liberal Dilemma

Alice Hills
Frank Cass, 2004
ISBN 0-7146-5602X

Reviewed by Lieutenant Colonel Chris Field

…it is always worth an effort to retain [a large and prosperous town], partly because of all that can be drawn from it indirectly, and partly because an important town weighs heavily on the scales when it comes to negotiating peace.

C. von Clausewitz
On War p. 395

Dr Alice Hills, who lectures in Defence Studies for King’s College, London at the UK’s Joint Services Command and Staff College, is a significant British author who has specialised in the understanding of urban operations. This work, Future War in Cities, is an important contribution to support and challenge ADF thinking about urban warfighting, particularly when we have personnel deployed simultaneously in some of the world’s most complex urban environments. Of note, this book also includes useful observations about Australian urban operations in Somalia (1993) and Solomon Islands (2003). The author does not limit her discourse to the Army side of urban operations but comments extensively on the use of air power and the criticality of joint inter-agency operations when fighting in complex urban environments.

Dr Hills’ opening premise that ‘urban operations have the capacity to become a critical security issue in the twenty-first century’ and that ‘Western expeditionary forces will be forced to engage in cities whether they want to or not’ will not be denied by ADF personnel serving in the Middle East or our near region. Indeed, our Defence Force has been, like the British military at the commencement of operations in Northern Ireland, forced to quickly adapt our training to urban environments to the point where, in 2006, we still: lack sufficient urban training facilities in Australia; struggle to develop urban warfare doctrine; are challenged by requirements to network and equip the urban warfighter; and, do not have a dedicated urban operations training centre. Indeed, Dr Hills notes that there is a ‘worldwide lack of [urban] facilities designed for company-sized or larger unit exercises, and very few urban ranges have a live fire option.’

The ADF’s struggle to develop urban warfare doctrine should not be perceived by the ADF to be a criticism. Indeed, Dr Hills explains that ‘doctrine is never sufficient [indeed, nor do all forces have it] and must be supplemented by professional skill and judgment.’ The author argues that ‘doctrine is a contested notion in British military history. It is the formal expression of military
knowledge but is not thought operationally essential.' The police, in both the UK and Australia, for example, do not have doctrine and, it has been argued, neither did the British Army, with regards to urban operations, until recently. Dr Hills states that ‘experience, special training, self-discipline, and human intelligence are more critical [in urban operations] than doctrine or high technology… [and] although tactics are critical, successful urban operations also require appropriate political policies. This is especially so in cities where sectarian violence has a catalytic effect.’

This book has a decidedly British slant which is, in itself, quite useful for the ADF which presently relies heavily on the information published by the US military, especially the US Marines, in our understanding of urban war. That said, Dr Hills notes that ‘at the operational level British forces follow US thinking [on urban operations] but without its resources.’

Dr Hills helps to focus the reader on classic operational techniques that work so effectively in all warfighting environments: patrolling; intelligence; use of standing operating procedures; and cultural awareness. In this way the author reminds us that urban war is not simply about technological solutions, in an environment dominated by rubble and detritus, which ‘find-and-fix the enemy in place long enough for precision fire to do the killing from a distance.’ In fact, Dr Hills explains that our classic image of Stalingrad or Chechen-style urban fights are far less common than the constant and relentless patrolling required by soldiers in Baidoa, Baghdad, Dili, and Honiara. The author further notes that ‘cities such as Mogadishu and Kabul retain their significance even when the states they represent are an illusion’ to further emphasise the perennial nature of urban operations.

Dr Hills argues that the urban environment is the most complex and challenging, for many reasons, four of which are fundamental:

1. Battlespace, which includes: physical terrain; time; space; perception; the electromagnetic spectrum; inter-agency and coalition effects; and the activities supporting socio-political stability and reconstruction;

2. The intellectual and professional limitations of approaches, or tactics, designed for warfighting in open areas;

3. The presence of non-combatants, noting that current doctrine characterises non-combatants as bystanders or as an unavoidable nuisance yet they may: hide irregulars; block roads; present humanitarian challenges; or be vectors for disease; and

4. The pre-modern nature of urban warfighting, noting that technology for close combat has advanced more slowly than that for precision war, making close combat increasingly attractive to the West’s adversaries.

This book brings some hard truths to the forefront for any Western military preparing for, and conducting, urban operations. The author notes that we, in the West, are constrained in urban operations through tactics that measure our military success. These are most notably: ‘reasonable friendly force casualties, and tolerable non-combatant casualties.’ Dr Hills notes that, ‘urban operations exemplify the tensions between the reality of military forces and liberal democratic values’, and that such tensions do not, necessarily, apply to our enemies, who are able to use our own restrictions as weapons against us, thus further complicating our warfighting dilemmas. A further complication for allies of the United States is, noted by
Dr Hills, as the ‘American distaste [at the operational level] for anything representing nation building or peacekeeping.’

Dr Hills is also mildly critical of that US Marine, and now ADF, sacred cow the ‘three-block war’, which was made famous in 1997 by US Marine Commandant General Charles Krulak:

In one moment in time, [USMC] members will be feeding and clothing displaced refugees —providing humanitarian assistance. In the next moment, they will be holding two warring tribes apart—conducting peacekeeping operations. Finally, they will be fighting a highly lethal mid-intensity battle. All on the same day, all within three city blocks. It will be what we call the three-block war.

Dr Hills’ criticism is that the three block war was ‘never viewed as an operational concept but was rather a means of explaining to the [American] public how the Marines might find themselves engaged overseas.’ Thus, without an attendant three-block operational concept, the three block war has had difficulty in being progressed into any meaningful urban operations doctrine. Dr Hills states that one of the West’s greatest analytical challenges is to develop an ‘overarching theoretical [and] analytical framework for military operations in an urbanised world,’ noting that there is ‘no defence or security equivalent to the wider academic study of urbanisation, social change, and natural hazards, or the long-term issues of urban safety and sustainability.’

This book is thought provoking, well researched and extensively footnoted, and is an excellent addition to the library of ADF professionals who aim to fully grasp the complex and challenging issues related to fighting in and influencing urban environments.

**Another Bloody Century**

Colin Gray
Phoenix, 2006
ISBN 100 - 3043 - 6734 - 6

Reviewed by Mark Lax

The start of the 21st Century certainly got off with a bang rather than a whimper and idealists who in the 1990s prophesised the emergence of a new world order bringing peace and stability have already had their dreams shattered. Gray quotes Plato’s ‘only the dead have seen the end of war’ and given the title, he goes on to foresee another bloody century. This book presents his thesis.

*Another Bloody Century* is about future warfare, not the past, although Gray wisely uses history to back up his assertions. In chapter one he writes that the nature of war is permanent, only the
character changes, and later that ‘warfare has a healthy future’. This develops the plot and while Gray also takes the first chapter to explain why it is impossible to predict the future, he then offers five predictions (trend spotting as he calls it) which form the backbone of the work.

Without giving too much away, the first is that the present US hegemony will persist. Second, that hegemony will however, eventually erode. Third, that future war will not be shaped by multi-national institutions at this stage. Fourth, that globalisation will change the political context and his final prediction, and the one that offers the most punch, is that the effects of climate change may outweigh those of the first four combined. This last prediction is telling and may spark a new debate on the global warming issue.

I got the impression that Gray deliberately set out to be controversial, but if that was his aim, I think he fails. I found myself agreeing with most of his brash statements (but then, it could just be me). After a discussion in the opening pages about why he feels Clausewitz was right, Gray moves into the modern era. Quotes such as ‘the global visual media is (sic) rendering warfare a worldwide ‘spectator sport’, a source of vicarious excitement and even pleasure’ (p. 62) rings true, while calling the US the sheriff and the UK its deputy (p. 77) may also sound familiar in the Australian context. He claims that the UN is no longer relevant (p. 75) and that NATO is lost for a mission (p. 77). Moving on, he emphasises the US love affair with technology and that ‘systems of systems’ are bound to fail because they lack a ‘human dimension’. So what of this is new and why should it get an airing?

The main reason is who the author is. Gray is currently Professor of International Politics and Strategic Studies at the University of Reading and is widely respected in International Relations and Strategic Studies circles. A dual US/UK national, he has been adviser to governments on both sides of the Atlantic and is a prolific writer and conference speaker.

Although terrorism, WMD (with a focus on nuclear weapons) and space/cyber war act as sub-streams, the crux of Gray’s thesis is that great power rivalry is not dead and is about to have a rebirth (p. 153). Russia, China and the US are the likely players. He was allegedly the only one of the delegates at a recent US conference on the future of warfare to make this assertion. If true, so much for intellectual depth of US delegates and whither the debate.

The text is divided into three parts, ‘Basics’, ‘Warfare in the 21st Century’ and ‘Taming the Beast’, with the 397 pages also supported by concise endnotes, extensive bibliography and index. Eight centre pages of black and white photographs are quite superfluous, but several figures within the text add to the interpretation of key points.

What is said could have been done so more precisely, in about 100 pages rather than 400. I found a lot of repetition and reiteration made the book rather cumbersome to read and hard going at times. Well argued, sometimes turgid, the book will add to the growing debate on the nature of 21st century warfare. With Gray’s final point that history as our only guide available, military officers and Defence civilians need to take heed—war, with all its misery, is here to stay.
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