Chief of Army address to the Lowy Institute for International Policy

Lieutenant General Angus Campbell DSC, AM, address to the Lowy Institute for International Policy, Sydney, Tuesday, 4 October 2016.

Theme: A turning tide? Australia's strategic Defence interests and the Australian Army

Check against delivery

Good afternoon ladies and gentlemen.

I would like to acknowledge the Traditional Custodians of the land on which we are meeting today, the Cadigal people, and pay my respects to their elders, both past and present.

I appreciate the invitation to speak at the Lowy Institute this afternoon. The Australian perspective you bring to international policy issues is always very well regarded. Lowy is one of Australia's flagship think tanks and I value the opportunity to contribute today.

The 2016 Defence White Paper places Australia's security firmly within the maritime environment of the Indo-Pacific region. This reflects a bipartisan continuity of strategic thinking about our place in the world. The Australian Army contributes to our nation's security and has done so, mostly as an expeditionary, continental army, for most of its history. This includes the operations in Afghanistan and Iraq during the last fifteen years, Vietnam, Korea and much of both world wars. While not forgetting the divisional scale combined amphibious operations of the South West Pacific campaign of World War Two; the introduction into service of the Landing Helicopter Dock vessels, HMA Ships *Canberra* and *Adelaide*; in concert with other advanced naval, air and land platforms, provides a substantial increase in the modern Australian Defence Force's potential for amphibious operations, ranging from humanitarian assistance to war fighting.

So when preparing this address, I was initially intending to speak about the implications for the Army of designing a land force both required to operate within a maritime setting, and enabled by such vessels to actually do so; for Army to contribute to generating a powerful, necessarily joint, amphibious task group. However, an amphibious task group is only one aspect of a much greater design challenge for the Australian Army and the ADF. Mastery of land, air and sea is no longer sufficient for modern defence forces; Operating across multiple domains is essential to success. Let me explain.

The idea of a 'maritime strategy' is often discussed, and just as often misunderstood. The 2013 Defence White Paper mentioned 'maritime strategy' ten times, even devoting a section to it without clearly defining the term. It is not naval strategy. The British strategist, Julian Corbett, offered a useful definition a century ago in his 1911 work, *Some Principles of Maritime Strategy*. He said, "by maritime strategy we mean the principles which govern a war in which the sea is a substantial factor".

He stipulated that maritime strategy is about the relationship between the Army and the Navy in a war plan. And that the outcome of such a strategy necessarily has a terrestrial focus. Corbett also said;

“Since men live upon the land and not upon the sea, great issues between nations at war have always been decided – except in the rarest cases – either by what your army can do against your enemy’s territory and national life; or else by the fear of what the fleet makes it possible for your army to do”.

I suspect Army Chiefs have rolled out this magnificent quote, here at Lowy and like institutions for neigh on a century! Updated to include the essential third force, and its control of the air, what more is there to say if you lead an Army?

However, Corbett would not write as emphatically today as he did all those years ago. Technology has pushed us beyond consideration of the relationship between land and sea. And it is pushing us beyond thinking about maritime strategy.

The application of coercive national power hasn’t been solely bound by the geographic domains of land and sea for a century. Progressive technological innovation first gave us the air domain and airpower. Fifty years ago space became and remains the high ground in intelligence, surveillance, geo-location and synchronisation.

Twenty years ago cyber emerged and its full implications are as yet undiscovered. Twenty years from now, just a blink of the eye in defence planning terms, perhaps artificial intelligence may be next. Most scientists in the field think its ten years away, so I’m being conservative.

Innovation in today’s non-geographically bound domains – air, space and cyber – is driving connectivity and complexity across the Indo-Pacific region. It’s bringing the region closer and more tightly networked. And I think it means the idea of ‘an army for a multiple-domain strategy’ rather than only for a ‘maritime strategy’ might be a more useful holistic concept. Paraphrasing Corbett, such a concept would mean the principles which govern a war in which the sea, air, space and cyber are a substantial factor influencing, and being influenced by, the land.

Today, I want to explore this idea. I will note our strategic interests within the Indo-Pacific, examine factors I think are shaping that environment, and conclude with an examination of some implications for the Australian Army.

The Defence White Paper affirms three equally weighted strategic defence interests for Australia. These are;

- A secure, resilient Australia, with secure northern approaches and proximate sea lines of communication,
- A secure nearer region, encompassing maritime South East Asia and the South Pacific, and
- A stable Indo-Pacific region and a rules-based global order.

While the phrase ‘Indo-Pacific’ is only mentioned once, all three interests are clearly set within and against that regional context. The White Paper continues to see beyond purely geographic constructs to consider more broadly our ‘interests’. In doing so, it affirms an old but enduring strategic concept for our island nation.

In 1902, Major General Edward Hutton, then Commandant of the Military Forces of the Commonwealth stated:

“The defence of Australia cannot, moreover, be considered apart from the defence of Australian interests. Australia depends for its commercial success and its future development firstly upon its seaborne trade and secondly upon the existence, maintenance, and extension of fixed and certain markets for its produce outside Australian waters. It therefore follows that Australian interests cannot be assured by the defence alone of Australian soil”.

The pursuit of our interests, global or otherwise, has always been within and through the geographic construct of the Indo-Pacific. But this region bears little more than a passing resemblance to the Indo-Pacific of 1902.

Although the region is defined by two oceans, it is unhelpful to think of it in a traditional cartographic sense. If we look at the oceans in isolation we can be mislead. Their scale and size are overwhelming, but the true story of the Indo-Pacific is not one of vast, watery maritime deserts. Rather, it is one of crowded, dense and rich areas of human endeavour.

Some facts illustrate this story. It is not just the oceans that are large. The region contains the most populous nation on earth, the largest democratic nation on earth and the largest Muslim majority nation on earth. Eight of the ten most populous states are Indo-Pacific nations. Over 50% percent of the world’s people live here. The region encompasses 12 member states of the G20. The three largest economies in the world are Indo-Pacific nations; and highlighting the inherent diversity of the region, so are ten of the world’s fourteen smallest economies. Linked to the volume of trade and economic activity, the busiest international sea lanes are in the region, as well as nine of the world’s ten busiest seaports.

The region is also heavily militarised. Seven of the world's ten largest standing militaries and five of the world's declared nuclear nations are in the Indo-Pacific. So, we might reasonably conclude that the story of the region is one of size: big oceans and an equally big scale of human endeavour. But I still think that is insufficient. These two factors, in combination, infer a story about the littoral. And the activity within the littoral is perhaps the unifying and definitive narrative of the region.

Dr Peter Dean, of the Australian National University’s Strategic and Defence Studies Centre, drawing on Michael Wesley’s recent work, highlighted the significance of littorals at a conference of regional chiefs I hosted in Adelaide last month. Dr Dean noted:

“70% of the world’s population and virtually all centres of international trade are in littoral regions. Among the 63 most populated global urban areas…72% are located on or near the coast … two-thirds in Asia. In the Indo-Pacific area three-quarters of the population

live within 200kms of the coast. In this zone reside 80% of its cities and most of its vital infrastructure".

Robert Kaplan tied all of these facts together in his 2010 book *Monsoon*:

"It is in the littorals where global issues such as population growth, climate change, sea level rises, shortages of fresh water, and extremist politics (the last of which is affected by all other factors) acquire a vivid geographical face".

The concept of the geographic littoral serves to tie Corbett's story of the sea with the story of the land and the human endeavour it supports. But you will recall I asserted earlier that technology is eroding this construct. I think we need a 21st century concept of the Indo-Pacific 'new' littoral; one in which we see further than the physical relationship between land and sea domains. The air, space and cyber domains abut and 'wash over' the land and the societies in the Indo-Pacific to an even greater extent than the oceanic littoral.

The new littorals are ubiquitous. They stretch our conception of how a littoral is delineated. Their pervasiveness challenges traditional ideas of sovereignty and borders. They suggest that physical distance does not mean what it once did. Understanding the impact of these new littorals will be important to pursuing our strategic defence interests in the Indo-Pacific. We will not be alone in doing so. A recent draft concept paper from the United States noted that they; "will have to confront adversaries not only in the air and on land, but on sea, in space and cyberspace, as well as the electromagnetic spectrum and human perception". But, the proliferation of domains and their interaction are not the only technological factors germane to this discussion.

Emerging developments in military science and technology have been well canvassed publically. They will be broadly familiar to most: digitisation, heightened precision and lethality, stealth, miniaturisation, electro-magnetic and directed energy weapons, hypersonics, automation and autonomy. We're witnessing the next wave of military technological development. And perhaps we're only at the edge of understanding what these technologies might really mean for security and stability. It can be hard to determine the true nature, impact and timing of science and technological change when you're in the middle of it. What is apparent in hindsight can be less obvious when you are captured by the present.

I see broad agreement among practitioners and theorists alike, that we are probably at some sort of inflexion point. Technology is changing the character of the contemporary military problem. This suggests the need for innovative operational concepts. But the two don't necessarily follow.

The 19th Century provides a useful example. Industrialisation brought railways, weapons with rifled barrels and rapid firing capability, steel hulled steam ships and tinned food. Each of these innovations had an impact on the possibilities, conduct and character of war. Yet grimly, first in the US Civil War, and then in the First World War, the full impact of these technologies was not appreciated. The Army wants to believe it is alive to this trap. It is one of the reasons we have recently reinvigorated our thought and research

capability through the creation of an Army Research Centre. Only time will tell if we're successful.

However, it may be non-military applications of technology which are having, and will have, the biggest impact on the Indo-Pacific. The global digital commons are increasingly complementing established international sea and air lanes. Not in the physical trade of goods, but with the equally valuable trade in services, finance, information and influence. The digital and physical commons are coming together to shape supply chains and deliver even greater connectivity. In doing so, they are further impinging upon our concepts of geography and sovereignty.

The author and international relations scholar, Parag Khanna, asserts in his new book, *Connectography: Mapping the Future of Global Civilisation*;

"Supply chains and connectivity, not sovereignty and borders, are the organizing principles of humanity in the 21st Century… A country cannot change where it is, but connectivity offers an alternative to the destiny of geography".

This leads Khanna to conclude, "Global order is no longer something that can be dictated or controlled from the top down". I think Khanna's view aligns with the inferences of the 'new littorals'. It builds upon an idea offered by Ian Morris in his 2010 book, *Why the west rules – for now*:

"Rising social development has always changed the meaning of geography, and in the twenty-first century, development will rise so high that geography will cease to mean anything at all".

The idea of either a 'new' geography or of geography being rendered obsolete by technological and social development is pervasive in contemporary literature. It is an idea that demands attention by defence planners with a sense of geography derived from study of Clausewitz, Mahan and Liddell-Hart. And while it requires further thought, it must be balanced against another current, demonstrated reality. The actions of assertive states, in Europe and the Indo-Pacific, suggest that the important physical facts of geographic proximity still matter, and I suspect always will matter. While clearly impacted by globalisation, as suggested by Khanna and Morris, the Westphalian era hasn't quiet finished with us yet.

There is another observation which needs to be made with respect to the impact of technology upon the Indo-Pacific. It is that impact isn't even. For each nation state or society living wholly integrated into the global food supply chain there is one in which its population are largely living a subsistence existence. Both have risks of disruption, but the risks manifest themselves in very different ways. The same is true of military technology.

As US author and polemical television commentator Ralph Peters observed in 1999, "technologies come and go, but the primitive endures". The weapons we face in the region from potential adversaries are diverse and potentially at opposite ends of the spectrum. From directed energy weapons to box cutters; hypersonic ballistic missiles to improvised explosive devices – all are in play. For every leading edge system fielded

there are systems fifty years old, and everything in between. Different layers of embedded technology and national capability have operational implications for joint and coalition force cooperation, as leading edge and trailing edge technologies are fielded together.

The evolving Indo-Pacific region is one in which traditional concepts are challenged by the connectivity and complexity of modernity and its enabling technology. This is not new. The Indo-Pacific has always been connected to some degree, and complex to a larger degree. What has changed is the scale and uneven application of these effects.

Connectivity has broken down traditional boundaries, suggesting new paradigms for how we might view things such as the littoral. Digital technology has not only enabled trade and commerce. It has increased and democratised transnational social and cultural connections. Ideas are transmitted easily and quickly. But transmission of an idea is not the same as acceptance. Social, cultural and national identity is being reasserted in response to the homogenising forces of globalisation. Connectivity is heightening rather than diminishing complexity in the Indo-Pacific.

So, what are the implications of all this for the Australian Army? Connectivity and complexity suggest many, but three are paramount.

The first is the ongoing utility of land forces and land power. Notwithstanding the proliferation of technology and the associated emergence of new domains, war without submission requires decision on land, where people live. The need for Orwellian ‘rough men’ (and women) is not going away anytime soon. War as a contest of wills, settled by close combat, is the enduring responsibility of the Army. However, the context in which that contest takes place has and continues to change. This takes me to the next major implication: the operational experience of the ‘new’ littoral.

The fact that our strategic defence interests lie within the Indo-Pacific means it will not suffice for the Australian Army to remain a continental army as we have been for most of our history. But the context of the Indo-Pacific means it is also unsuitable to be simply an Army for a maritime strategy.

The use of force and coercion will increasingly be generated and delivered across, and with reach, to and by all the domains of land, sea, air, space and cyber, and soon I think AI; a next domain because it is possibly no longer a human domain. Multiple domains are a present, not a future problem.

US Marine Corps doctrine conceives of operations 200kms inshore. Long range land and sea based surface missiles can strike far beyond the littoral horizon. Cyber operations do shut down a country or elements of its critical infrastructure and armed forces. The Army and more broadly the ADF needs to be able to influence and shape effects from and across multiple domains, as other protagonists will seek to do against us. This is why mastering ‘joint operations’ is even more important and much harder than ever before. We need to generate, coordinate and anticipate multiple cross-domain actions and reactions. No one service or domain can or will have a monopoly on success.

Variations in technological capacity across the region require a force to have the agility to operate across the continuum from high tech to the primitive – perhaps simultaneously. The Army, and its partners, now have an integration challenge across five domains rather than one or two, and many layers of technology.

The Clauswitzian trinity of passion, chance and reason in war will be deeply affected by both digital connectivity and the speed it brings. We need new concepts to deal with an adversary's 'weaponisation' of information and influence. How to prosecute war in a transparent world, and cope with the thousand voices of opinion that will surround the point of battle, will be even harder for the modern commander.

Control of tempo has also always been an important factor in war. It must now be managed across different environmental domains, moving at different speeds. This will affect us and also our adversaries. Those adversaries who operate below our technological threshold may effectively be operating in another dimension. Despite seeking a technological edge, we will need to retain the ability to operate in a digitally and technologically deprived or denied environment. We will still have to do and deal with low tech 'primitive'.

Our dependence on the digitally assured connectivity of global supply chains is a modern case in point. How does a high technology military or society such as Australia function if those supply chains are disrupted or denied? How do we build resilience against those possible eventualities? Connectivity becomes something to be protected – and denied an adversary. Perhaps future conflict in the Indo-Pacific will require greater thought about the development and use of indirect approaches. These may be less disruptive to the vital maintenance of global connectivity, now essential for supply, services and finance.

The third major implication I see for the Australian Army is a philosophical question regarding our people, technology and systems. The Navy and the Air Force have traditionally operated platform systems. That is, they have acquired technology (ships and aircraft) and then applied their people to them. The Australian Army has been a people based system. We have recruited and trained our soldiers, then applied technology to support them. For the Army, technology is not an isolated thing. It achieves its effects through application, enabling the right people and their endeavours. Increasing sophistication and the need to use technology across multiple domains will require Army to change our approach. A key question for me is getting the balance right, while retaining the ability to fight and function in both high tech and low tech modes.

Army will probably adopt a hybrid model. Rather than 'manning the technology' like the other services, we might settle on an approach of 'partnering' with technology. An example offered by Garry Kasparov in *The New York Review of Books* in February 2010 is illustrative of how partnering can work. Most are familiar with the matches Kasparov played with IBM's 'Deep Blue' computer in the 80s and 90s. In later 'experiments', students were partnered with laptop computers to play chess against super computers more sophisticated than 'Deep Blue'. The results were interesting. It was found that the combination of a strong student, laptop and an inferior process of partnering would beat a supercomputer. Perhaps more remarkably, it was found a *weaker* student, laptop and *better* partnering process also beat the supercomputer. In the face of the rapidly growing ability of machine learning (artificial intelligence) and machine autonomy this suggests a

path for land forces. Rather than future war being about soldiers versus machines it will be about soldiers and their machines versus machines. Such a hybrid approach may maximise the relative advantages of both soldier and machine in a future fighting system.

Australia's strategic defence interests in the Indo-Pacific region present the Australian Army and the nation with continuity and change. Continuity; that reaffirms the duality of geography and interests as drivers of Australian national security thinking. Change; insofar as technological innovation is affecting the meaning of both geography and interests within our region. The Indo-Pacific is denser, richer and closer than it has ever been. The old concept of the Indo-Pacific littoral as a distant boundary where social, cultural, commercial, political and military interactions occur has been dashed. The new littoral is immediate and it is where we live.

Necessarily, this means the tide must turn on concepts of how we employ national power in pursuit of our security interests. Old ideas of continental and maritime strategy are dislocated. They may be rendered moot by the impact of technology and globalisation on geo-politics. The same technological wave drives the need to change military thought. This is more complicated than just embracing everything high tech. For a start, that's unaffordable; for all states. A new and greater disparity will emerge between the technological haves and have-nots. The distinction between these might not be as clear you think. You will recall my earlier point about the mix of leading edge and trailing edge technologies that will make up most militaries in the first half of this century. These variations will present gaps and seams in military forces that an astute enemy will exploit – up and down the technology spectrum. And there will still be those, who by choice or necessity, go for the primitive: such as a socially networked, lethal, time patient and resilient force, or one operating free of the strictures of globalised ethics, laws and norms. From space-based military effects to machetes; the Australian Army and its partners will need to address them all.

The Australian Army is aware of the need for a change in approach. The Defence White Paper sets us a challenge well beyond the continental force of today. Some things we can see now. The linear progression of typical military practice is an uncertain path; our security interests in the 21st Century Indo-Pacific will require 'multiple domain' thought and action. We also know that we cannot rely on technology alone. Technology works best when enabling or partnering human endeavour.

And ultimately I think it is in the human part of war, rather than the scientific part, where the answers lie. Human innovation and partnership created the problems we face. Human innovation and partnership will be the key to solving them. The Australian Army will be looking to our joint force, our whole of government colleagues, our allies and foreign friends, and institutions such as the Lowy Institute, to join us in thinking about and building our security future in the Indo-Pacific.

Thank you.