

Australian tanks:

Facts not mythology

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The angel's wings

The approach to the town of Cambrai in northern France traverses a windswept, bleak landscape of poplar-lined avenues, dense woods and chalk downs: the backdrop to World War I. In the public gardens, near the town centre, is a war memorial next to a monument commemorating the pioneer aviator Louis Blériot.

While the sheer number of war monuments on the Western Front is somewhat overwhelming, the memorial at Cambrai, scene of the first major tank battle in history, is unique. It is surmounted by an angel, leaning forward into the wind, wings trailing. Huddling for protection under the angel's wings are several grim-faced infantry soldiers. The wings, as they sweep backward, gradually assume the form of a tank. For an infantry officer, the symbolism is obvious. The guardian angel of infantry in battle—and rarely did anyone have more need of a guardian—is the tank.

Many innovations emerged from the slaughter of the Western Front. One was the dream of armoured warfare, appositely expressed in the angel's wings—the notion that tanks could break the deadlock of the trenches and protect the infantry in close battle. Another, evoked by the Blériot monument, was the idea that aeroplanes could defeat the enemy through long-range strategic bombardment, avoiding the close battle altogether. Between the wars this came to be known as the 'Bomber Dream', and found its clearest expression in the writings of Italian theorist Giulio Douhet.

Both ideas have continued to influence warfare into the 21st century: consider the 'shock and awe' air campaign and the armoured 'battle for Baghdad' in the 2003 Iraq War. Both notions contain a large measure of truth and yet, unfortunately, their protagonists have often seen land and air forces as competing capabilities when, in fact, their greatest strength is that they are complementary. The attempt to portray tanks and aircraft as somehow opposites dominates recent writing—much of it from people who should (and perhaps do) know better—concerning the recent commonsense decision to replace the Army's obsolete Leopard 1 tank with the newer Abrams M1A1.

Public discussion over the need for a new tank has spawned several myths—myths in the classical anthropological sense of validatory beliefs that justify the holder's attitudes and

behaviours but which are not necessarily based on fact. Avoiding the polemics of such debate, we need to examine some of these myths from a professional military–technical standpoint.

Ten tank myths

Based on a survey of Australian media reporting and pseudo-academic writing about the Abrams tank purchase, ten myths have been floated:

- tanks are old technology;
- tanks are only intended for killing other tanks;
- tanks are primarily intended for high-intensity warfare;
- all tanks are basically the same;
- tanks are very expensive;
- attack helicopters have assumed the role of tanks in modern war;
- infantry bunker-busting weapons can do the job of the tank;
- tanks send an unacceptable political message;
- tanks are unsuited to the terrain of Australia and the Asia-Pacific; and
- tanks are difficult to deploy outside Australia by ship or aircraft.

Myth 1— tanks are old technology

According to this myth warfare has moved on since tanks were invented in the early 20th century. Given today's technology, this myth suggests, there must surely be a better approach than to put a cannon into a big metal box and drive it at the enemy.

Of course, the idea of the tank has been around for a long time. Leonardo Da Vinci produced a number of tank designs, Richard Edgeworth developed the caterpillar track as early as 1770 and a small number of steam-powered, tracked, logistic vehicles were used in the Crimean War. In late 1915, responding to the deadlock of trench warfare, a British team under Lieutenant Colonel E. H. Swinton designed the first true tank—a protected, direct-fire weapon on a high-mobility platform, used for crossing broken terrain under fire, to conduct close combat. By 1918, tanks were used by

all major armies and achieved key successes in lives saved and territory gained.

Tanks are old technology only in the same sense that aeroplanes and interplanetary rockets are old technology. Modern tanks bear about as much resemblance to ‘Mother’ (the first tank of early 1916) as modern combat aircraft bear to the 1910 Blériot monoplane, or modern guided missiles to Goddard’s experimental rockets of the 1920s. The technologies have changed enormously since the early days, but the basic principles of all these weapons are still valid. *Homo sapiens* is still a terrestrial, land-dwelling mammal. There is still a need to defeat the enemy and control the land—where human beings live—to prevent conflict or prevail in war. To do this, some form of protected firepower and mobility is still required.

This requirement is what is sometimes referred to in military circles as the problem of ‘the last three hundred metres’. This is the zone where the enemy can clearly see and kill friendly troops using heavy machine guns and even rifles, but where friendly air-delivered bombs and artillery cannot be used because at such close range they damage friendly troops as much as the enemy. In this zone it is essential we have weapons where the firer can see and engage the enemy directly in order to close with the enemy position. But in the extremely lethal environment of modern battle, such a precision direct-fire system must be protected if it is to survive long enough to do its job. This means it must avoid being hit (through stealth and mobility) or be able to survive a hit (through protection—which, given today’s technology, means armour). When firepower and protection are combined with mobility, we have an armoured platform that can manoeuvre across the lethal zone of the last three hundred metres, apply precision fire, and allow the overall force to manoeuvre. We call this weapons platform a tank.

A related misconception is that tanks are less necessary in modern network-centric warfare because all-pervasive communications networks provide situational awareness and responsive indirect fire support. In fact, the communications systems that enable this network-centric approach are a critical factor. Without armoured vehicles, every communications system has to be carried through the firefight on someone’s back. This limits the power and range of communications systems to the amount individual soldiers can carry across rough terrain while someone is shooting at them. Needless to say, this amount is tiny compared to what vehicles can carry. Moreover, in an infantry fight everyone is constantly taking cover, entering buildings and tunnels, crawling through confined spaces and so on—the ability to communicate is severely hampered by interference from the terrain. By contrast, when tanks are present they provide a protected, mobile communications node that can survive ‘out in the street’, providing an anchor for the dismounted soldier’s communications network and relaying information without terrain interference. The tank’s thermal and visual sensor systems also provide a wealth of information that contributes to the sensor and communications networks. Far from being an anachronism, tanks are central to a modern network-centric capability for close combat.

Myth 2—tanks are only intended for killing other tanks

Many people with no practical knowledge of tanks visualise them as heavy armoured ‘behemoths’ sweeping across desert or plains in *Blitzkrieg* style, destroying enemy tanks at long range. In the Australian context, tanks have never been employed in this way but they have been used extensively as the key to the ‘last three hundred metres’.

Australian tanks have always operated primarily as part of a combined-arms team with infantry, engineers, air power and artillery. They have mostly been employed in complex terrain—urban, jungle and coastal areas—rather than in open country. High mobility and the capacity to traverse open areas under fire are still essential, but the primary role of the tank in close combat has been as part of an infantry–tank team. For this reason, tanks employed by the Australian Army have often been quite different from those of other armies that *do* primarily engage in sweeping manoeuvre in open country. A few examples from Australian battle experience clearly illustrate this fact.

In World War II, the Matilda tank was almost useless for tank-on-tank combat in Europe and North Africa. It was too slow and, although very well protected, its gun was too small for tank-on-tank engagements. By contrast, in New Guinea, Bougainville and later in Borneo, the Matilda was an ideal intimate support weapon for infantry fighting in jungle and plantation areas. Even in mountainous country, these tanks were so valuable in saving lives that the pace of tank movement often regulated the speed of an advance. Tank-on-tank engagements were virtually non-existent, whereas actions against bunkers and infantry were the norm.

Similarly, in Vietnam our Centurion tanks—already obsolescent in NATO and with even later models heavily modified by the Israelis for desert manoeuvre—were found to be ideal against bunkers and in complex urban and jungle terrain. Indeed, they were introduced into the Vietnam conflict specifically to address an identified weakness in the survivability of Australian infantry forces against Viet Cong heavy weapons and bunker systems. A 2002 study by the Defence Science and Technology Organisation noted that attacks on bunker systems in Vietnam by Australian infantry and artillery without tanks only succeeded in 65 per cent of cases and involved significant Australian casualties. When tanks were present, the success rate climbed to 95 per cent while the ratio of friendly to enemy casualties was *six times lower* than in attacks without tanks. The study’s authors concluded that ‘armour made a major contribution to the effectiveness of attacks’, both in terms of lives saved and increased chance of success.

Are these historical conclusions still valid? Ask anyone who participated in the battles of Basra or Baghdad, or the fighting in Fallujah. No tank unit in the Coalition forces in 2003 suffered a single fatality through enemy tanks or anti-tank weapons during the entire period of major combat operations. Although many tanks have been eventually disabled in the insurgency phase that followed, the firepower, communications capability and protection afforded by armour—as part of a combined-arms team, including air power—has been shown to be essential time after time.

In today's context, the primary purpose of Australian tanks remains close combat as part of a combined-arms team with infantry, artillery, aviation and engineers. Infantry and tanks work intimately together—the tanks systematically destroy enemy positions that could harm the infantry while the infantry destroy anti-armour weapons that could harm the tanks. Combined with air power and suppressive artillery or naval gunfire, this method produces excellent results in complex terrain such as urban areas and jungles. In protecting themselves against one weapon system, enemy soldiers expose themselves to another. Clearly, however, the requirements for tanks in this type of operation may be quite different from the requirements for rapid manoeuvre in open country, regardless of the intensity of the battle.

Myth 3—tanks are primarily intended for high-intensity warfare

Just as some people visualise tanks conducting sweeping manoeuvre and destroying other tanks, likewise there is a persistent—albeit inaccurate—notion that tanks are best suited for high-intensity warfare and are irrelevant in lower-intensity conflict. It is true that tanks originated in the extremely high-intensity warfare environment of World War I, were refined and developed in World War II and have been widely used in subsequent high-intensity conflicts.

However, it is important to understand what we mean by 'high intensity'. The notion of 'high intensity' reflects factors such as the size of forces engaged, the tempo of combat action, the degree of sophistication of weapons employed, and the overall cost in lives. Clearly, the problem of 'the last three hundred metres' exists in any conflict where two opposing sides engage in close combat, independent of the factors that make an overall campaign 'high intensity'. Indeed, the difference between high and low-intensity conflicts actually reflects *how often* troops encounter highly lethal force, rather than the absolute level of lethality. In a high-intensity conflict, lethal force might be encountered every day, whereas in a lower-intensity conflict this might be a less frequent experience. Yet the absolute level of lethality would be the same—there is no such thing as a 'low-intensity' lethal firefight. Particularly for a defence force and a national population base as small as Australia's, even a few casualties during these (albeit infrequent) lethal firefights in low or medium-intensity conflicts can have major strategic implications.

The implications of battle casualties have largely provided the impetus behind the widespread use of tanks in peacekeeping or peacemaking operations and low-intensity conflict. All major peacekeeping forces in the former Yugoslavia, Africa and the Middle East have employed armoured fighting vehicles, often including main battle tanks. Tanks have been critical in preventing bloodshed by dissuading militias or guerrillas from interfering with the peace process. Where combat has been unavoidable, even in peacekeeping situations, tanks have allowed peacekeeping forces to quickly overmatch the opposition, saving both enemy and friendly casualties and preventing combat from

escalating by ending it quickly. Many instances of the use of tanks in Bosnia-Herzegovina fall into this category.

This successful employment of tanks has made them an imperative for any army before it can engage in military operations involving the possibility of serious armed opposition—including peacekeeping. Even in East Timor, had only a few engagements gone slightly differently, there would have been an immediate need for tanks to avoid significant Australian casualties. Indeed, our tanks were forward-deployed to Darwin's port during the initial stage of the East Timor intervention, when our infantry were heavily outnumbered, in order to meet precisely that eventuality. In a very real sense, an army that lacks tanks is limited to operations in all but the most benign threat environments and to the conduct of constabulary-type tasks. A modern army without tanks is, in effect, largely just a paramilitary police force.

These factors apply to armoured fighting vehicles (AFV) more broadly, not just tanks, and here it is important to understand another myth—that all armoured vehicles are basically the same.

Myth 4 – all armoured vehicles are basically the same

Again those without practical experience of the army tend to assume that all armoured vehicles represent essentially the same capability. In fact, even in the smaller category of 'main battle tanks', the variation between models is enormous. Moreover, as described, the requirements for tank-on-tank engagement are different from those of intimate support in complex terrain; so, not only are Australian tanks different from other tanks, they *need* to be different.

Thus, before the lessons of the Iraq conflict, when the United States and British armies flirted with an intention to move to lighter-weight tanks that were more deployable in a greater variety of circumstances, some assumed that the same factors applied to Australia. They assumed that we too should be replacing our tanks with a lighter-weight 'medium AFV' such as the US 'Stryker' vehicle, which is similar to the Australian six-wheeled light armoured vehicle (ASLAV).

It is important to understand that ASLAVs are not tanks and cannot be employed in the same way. ASLAVs have extremely light armour, excellent road speed, good sensors and capable weapons. They protect themselves by detecting the enemy first, moving fast, and engaging the enemy from stand-off ranges before they can be hit. This makes the ASLAV an outstanding asset for reconnaissance and fast-moving operations in open country. But it also means that taking it into close combat in complex terrain without support is asking for trouble. As cities and jungles are 'cluttered' environments, the enemy cannot be detected except at very close range, or until they reveal themselves by firing. Under these circumstances, the ASLAV's method of protection breaks down—it cannot avoid being hit, and it is too close for stand-off engagement. Its sensors are degraded and its light armour becomes a critical weakness. Importantly, one way ASLAVs can survive in this environment is to shoot first (at anything that looks as if it *might* be a threat) and ask questions later. Yet this approach is unworkable where

innocent civilian bystanders are present—particularly in urban operations.

By contrast, tanks have excellent armour and a capable weapon, although they are slower and less stealthy than ASLAVs (but with generally better cross-country mobility). They can sit in a street or a patch of jungle, accept and survive an unexpected hit, and decide whether or not to fire back or move, depending on the threat of collateral damage or civilian casualties. Tanks, in this type of environment, are much better protected against short-range snap shots from a hidden enemy using RPGs. The ideal situation is to fight with both ASLAVs and tanks, along with infantry and air power as part of a balanced combined-arms team. But ASLAVs cannot stand in for tanks in such a team—both are needed. Medium-weight vehicles are not a cheaper or operationally effective substitute for tanks, they have a different purpose

Myth 5 – tanks are very expensive

Military capabilities are extremely costly because warfare is one of the most capital-intensive enterprises in the world. Its tools are expensive to purchase and to maintain—which is a good reason for ensuring this process is efficient. In this sense, tanks *are* at first sight expensive; yet there is more to ‘expense’ than meets the eye.

In the first place, in comparison with other capabilities, tanks require a relatively modest outlay. A Leopard 1 tank cost about \$A1 million (in 1977 dollars) when purchased, whereas 30 years later a modern tank can be purchased for about \$A3.5 million (a broadly equivalent amount in today’s dollars). The project to replace Leopard with Abrams involves a total cost of around \$A550 million compared to a total cost of at least \$A15 billion for the F-35 Joint Strike Fighter. This is not to criticise the inevitably expensive cost of our new advanced air warfare capability. Rather, the point is that *all* modern military capabilities are expensive, but advanced land capabilities—in this instance the tank—tend to be an order of magnitude cheaper than advanced capabilities for air or maritime warfare.

Further, the cost of tanks needs to be considered in the context of the cost involved in conducting military operations without them. These costs are both human—as discussed previously, tanks save lives by a factor of about six—and financial, if we mount a military campaign at enormous cost but without success, thus wasting large amounts of taxpayers’ money for no national benefit.

To some, the example of the Joint Strike Fighter is also the latest manifestation of the Bomber Dream—the notion that air power can eliminate the need for close battle, rendering ground forces irrelevant. One iteration of this is the myth that attack helicopters have replaced the tank.

Myth 6 – attack helicopters have assumed the role of tanks in modern war

The attack helicopter is a phenomenal capability. It is fast, agile, well-armed and has outstanding sensors and

surveillance capabilities. As an air platform, it is free from the friction of topography and it can manoeuvre more easily than ground elements. As a long-range anti-tank platform the attack helicopter is highly capable, and thus appealing on paper as a potential replacement for the tank. This viewpoint was even expressed by one senior civilian Defence official at an Army conference in 2003.

Unfortunately this too is a myth, especially in the Australian context. As previously noted, the Australian Army uses tanks far differently from its allies. Our primary purpose in using tanks is to provide intimate support to a combined-arms team in close combat, not just to kill other tanks at long range. In terms of long-range anti-tank capability, attack helicopters are highly capable when it is safe for them to fly. But in terms of close combat, they are severely restricted in comparison with tanks.

Tanks have direct protection—the ability to *survive* being hit. They can sit on a street or in a jungle, under the canopy or the urban clutter, identify targets of immediate threat and neutralise them in an extremely precise manner using optics, sensors and direct-fire systems. Given appropriate rules of engagement, the risk of civilian casualties is low compared to air systems that sit above the canopy/clutter and have more difficulty in identifying and discriminating targets. Tanks also have relatively indefinite endurance—they can accompany other elements of the team, be logistically sustained easily, and remain in support on the ground (individually or in relays) continuously for long periods. Helicopters cannot be deployed in the same numbers as tanks, are much harder to sustain in engineering and logistic terms, require immense amounts of fuel to achieve comparable endurance and, in fact, can achieve only a fraction of the full-time intimate presence achieved by tanks.

Moreover, the Army’s new Tiger helicopters are ‘armed reconnaissance helicopters’ not ‘attack helicopters’. They are designed for our likely operational environments and optimised for stealth, reconnaissance, long-range fire support and strike missions. Unlike tanks, they rely on indirect protection—the ability to *avoid* being hit. They lack some of the anti-tank punch of true attack helicopters, which is appropriate since their role is different. They are operational-level tools applied by the commander to affect the course of an entire campaign, rather than assets such as the tank, which also have operational-level application but are primarily tactical tools.

None of this is a criticism of attack helicopters, or of air power generally—these are essential, war-winning elements in an overall combined-arms and joint service team. But they do not replace the tank. It is not a question of air power versus tanks—both are needed. The question is one of balance: how much of each is needed? This will be examined shortly, but meanwhile there is another, similar myth that needs to be explored—the idea that infantry bunker-busting weapons can replace the tank.

Myth 7—infantry bunker-busting weapons can do the job of the tank

The infantry capability to destroy tanks using unguided and guided weapons has increased dramatically in recent years. Javelin missiles have given our infantry unrivalled capability to destroy armoured vehicles—but Javelin requires long sight lines, has a distinct minimum range, and needs time to acquire a target. In close, complex fighting in villages, towns and jungles, such range and time are not necessarily available. To supplement guided weapons, infantry soldiers therefore carry unguided rocket and recoilless systems known as ‘bunker-busters’ because they are also effective against hardened targets such as fortifications.

Again, there is a view (but one few infantry soldiers would agree with) that bunker-busting weapons have now reached such sophistication that they can replace the tank. Unfortunately, again, this is not actually the case.

A simple logic flow clarifies this point. To replace tanks, infantry bunker-busting weapons would need to be capable of destroying enemy weapons and troops, reducing hardened targets and creating entry points in buildings. They would need sensors and communications to allow them to detect and engage targets and work with the rest of the combined-arms team. This would require a crew-served weapon and would mean carrying sufficient rounds (tanks typically carry around 70) in order to sustain the battle. Even with only a few rounds, the team would need some kind of vehicle to carry their ammunition, sensors and communications, or they would quickly become exhausted. The bunker-buster team would also need to cross rough, broken terrain under fire in order to move around the battlefield. Thus the vehicle carrying their weapon would need all-terrain capability. In approaching or engaging in battle, they would need protection from enemy artillery and mortars for without such protection, they would not last long. They would also need sufficient protection to expose themselves to fire while scanning to acquire targets.

So, to make infantry bunker-busters a viable replacement for tanks would require a heavy weapon able to penetrate buildings and destroy strongpoints, served by a crew of two or three, mounted in a high-mobility vehicle with protection against enemy fire and with sensors to acquire targets. In other words, to replace tanks with bunker-busters would mean turning the bunker-buster into a protected, mobile weapon system able to conduct close combat: in short, a tank. What this means is that, given the technology of today and of the foreseeable future, some form of tank or armoured gun system will still be needed. Indeed, most lay people, when looking at such a type of armoured vehicle, would consider it a ‘tank’.

This highlights the next myth—that tanks send an unacceptable political message.

Myth 8—tanks send an unacceptable political message

Some theorists have suggested that deploying tanks sends an aggressive political message, creates potential ill-feeling in our region, and thus counterbalances any tactical

advantage gained by using tanks. Most recently, a well-known academic theorist expressed this in an article arguing that the Australian Government would be extremely unwilling to risk the opprobrium of deploying tanks in the capital cities of our regional neighbours.

Again, this is a myth. In the first place, a glance at the evening television news will provide ample evidence that most people in the world cannot tell the difference between tanks and other types of armoured vehicles. Regularly, news footage of armoured personnel carriers, reconnaissance vehicles or ASLAVs is accompanied by voice-overs labelling them ‘tanks’. It is worth studying the media reporting of the 1999 East Timor operation where our tanks were in the end not needed but other armoured vehicles were deployed. Many Australian, Indonesian and other media reports mentioned ‘Australian tanks’ in Dili, but even the Indonesian coverage criticising supposed Australian heavy-handedness focused on our troops’ demeanour rather than the presence of armour—emphasising posture rather than platforms.

Looking at this same issue from a different perspective, should the Government decide that a situation warrants the deployment of military forces (with or without tanks) to a regional area, the situation would probably be so politically serious that the presence of tanks would make little difference to potentially unfavourable regional perceptions and is more likely to have beneficial effects, as a deterrent to escalation or reassurance of protection to non-combatants.

Some people will, of course, perceive any use of military forces, of any type whatsoever, as aggressive. The issue is not whether someone in our region may be offended by the presence of armour. The fundamental issue is how many casualties Australia would be willing to accept in order to avoid giving such offence. As indicated, tanks are vital in minimising friendly casualties in close combat. Thus, in any situation where combat might occur, a decision not to deploy tanks would probably increase the likelihood of additional Australian dead or wounded. If these losses were accompanied by mission failure—quite likely in the absence of a complete combined-arms team—the domestic political and international strategic fallout could also be quite negative.

In short, the idea that tanks send an unacceptable political message is a myth. The same message is a potential by-product of any deployment of forces, of whatever composition. Moreover, failure to use tanks—and the accompanying increase in casualties and potential mission failure—would send an equally negative message to both Australian and foreign audiences.

Myth 9—tanks are unsuited to the terrain of Australia and the Asia-Pacific

Some have argued, ahistorically, that tanks are of little practical value in the terrain of the Asia-Pacific. This stems from a perception that the region is an expanse of impenetrable jungles and impassable rivers, swamps and mountains where tanks are believed to be of little practical value. This too is a myth.

This myth is almost identical to a widespread misconception in Malaya before the Japanese invasion of 1941–42. This

misconception held that the Malay Peninsula was impenetrable to tanks or mechanised forces and that, as a result, the primary threat was from the sea. This proved tragically misguided as the Japanese rapidly penetrated the peninsula with a balanced mix of light and mechanised forces—including tanks.

The fact is that our region is increasingly urbanised and even rural areas are often sparsely vegetated. Even in jungle areas the use of tanks is not particularly problematic, as Australian forces demonstrated during World War II in New Guinea, Bougainville and Borneo. Similarly, all parties to the conflict in Vietnam employed tanks, as does every major regional army today. Tanks are readily employable throughout the region as our regional partners continually demonstrate. The related idea that tanks cannot be used in northern Australia is equally mythical—Australia's only tank regiment has been based in Darwin since the mid 1990s and exercises regularly across the north.

Clearly, conditions in northern Australia and the Asia-Pacific are different, and methods of operating tanks in the desert or in Europe would not necessarily be appropriate for this region. The same issues apply equally to light troops and air power. But this is precisely the point: Australia does not need, or intend, to employ tanks for sweeping *blitzkrieg* or tank-on-tank manoeuvre at long range. The need is for protected firepower and mobility as part of a joint combined-arms team in close battle. The issues involved in using tanks in the region are well understood, and Australia—and every other major regional army—have been successfully using tanks for decades.

Myth 10—tanks are difficult to deploy outside Australia

The final myth is that tanks are 'strategically unusable' because they are difficult to deploy outside Australia. Ignoring the obvious examples of large bulldozers and mining vehicles, tanks are portrayed as heavy metal machinery which cannot be moved by air or sealift and therefore as 'stuck' in Australia.

In fact, tanks can be easily deployed using the Navy's current amphibious landing ships, HMAS *Manoora* and *Kanimbla*, and will be even easier to deploy with the replacement LHDs. Using these amphibious ships, the entire tank regiment can be moved in one lift and disembarked by landing craft that are easily able to handle tanks (indeed, they were specifically designed for such a purpose).

Moreover, amphibious ships only need to move tanks if the intention is to land tanks across the shore away from a port. This is a necessary capability for reasons of operational manoeuvre but it would rarely be the first choice, especially on any scale. Wherever possible, the preference would be to secure a port facility to disembark our tanks from any appropriate civilian 'roll-on, roll-off' vessel or car ferry. This is precisely what happened when the 1st Armoured Regiment moved from Melbourne to Darwin in the mid-1990s. The entire regiment with all its vehicles (including tanks, support vehicles and administrative transport) was shipped using only three decks of a nine-deck civilian commercial vessel. In a low or medium-intensity conflict environment, a port facility would almost certainly be available. Similarly, in Korea, Vietnam and both Gulf Wars ports were readily available to disembark armoured vehicles.

Our new tanks can also be carried in the RAAF's new C-17 heavy-lift aircraft and in various allied and chartered civilian transport aircraft, although deployment of tanks by air is extremely rare. Similarly, all of Australia's other armoured vehicles can be moved by C-130 Hercules as well as C-17. So the deployability issues surrounding the tank are well understood and represent no significant obstacle to their employment. The idea that tanks are difficult or impossible to deploy is, in short, a myth.

The reality of tanks in the Australian context

Having examined these myths, it is clear that the word 'tank', originally used in early 1916 as a codename to hide the real nature of the new vehicles, is still capable of generating confusion. Contrary to mythology, tanks are not old, expensive, technology only intended for killing other tanks in high-intensity warfare. Nor have they been supplanted by attack helicopters or infantry bunker-busting weapons. Moreover, contrary to the claims of some armchair commentators, tanks do not send an unacceptable political message, nor are they unsuited to Asia-Pacific terrain and they are certainly not difficult to deploy outside Australia.

Modern tanks are flexible, high-technology weapon systems that provide an enormous tactical advantage and can also reduce casualties by a factor of six in close battle. In the Australian context they operate primarily as part of a combined-arms team with artillery, light forces and air power. Long-range *Blitzkrieg* in open terrain is largely irrelevant to this reality and would anyway require far more than the 59 replacement tanks being procured. Our new tanks are instead, agile, well-armed, well-protected additions essential to the effective manoeuvre of a balanced joint team. This applies at every level of intensity because of the universal need to cross 'the last three hundred metres'. It also applies to warfighting, peace enforcement and humanitarian operations in any environment where Australian forces are likely to encounter opposition.

Since 1916 we have moved an enormous distance beyond the battle of Cambrai, with its prototype tanks, primitive aircraft, and colossal casualties. The twin monuments at Cambrai—to the protective 'guardian angel' of the tank, and the pioneering spirit of air power—are a reminder that modern warfare is three-dimensional, 24/7 and immensely harsh and hostile. It is a combat environment that cannot be overcome by succumbing to 'myths' or blindly following 'dreams' of whatever hue. We will win our wars only by considered and diligent development of integrated joint capabilities that include air and maritime power and, in the land forces projected and supported by such power, balanced combined-arms combat teams of infantry, tanks, armed helicopters and artillery. ♦

Dr David Kilcullen is a former Army officer. This is an updated version of a longer article in the Summer 2006 Australian Army Journal and is republished courtesy of the journal.