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**REDEFINING STRATEGIC STRIKE:
THE STRIKE ROLE AND THE AUSTRALIAN ARMY
INTO THE 21ST CENTURY**

by

Martin Dunn

April 1999

Land Warfare Studies Centre

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CONTENTS

ABBREVIATIONS AND ACRONYMS

ADF	Australian Defence Force
ADFP	Australian Defence Force Publication
ADR72	Australian Defence Review 1972 (document)
AIB	Allied Intelligence Bureau
ASIS	Australian Secret Intelligence Service
ASP90	Australia's Strategic Planning in the 1990s (document)
ASP97	Australia's Strategic Policy 1997 (document)
BDA	bomb damage assessment
C^3I	command, control, communications and intelligence
CIA	Central Intelligence Agency (US)
DA94	Defending Australia 1994 (document)
DOA87	Defence of Australia 1987 (document)
ECM	electronic countermeasures
EMCON	emission control
EW	electronic warfare
ICBM	intercontinental ballistic missile
IW	information warfare
LRDG	Long Range Desert Group
LWSC	Land Warfare Studies Centre
NATO	North Atlantic Treaty Organization
NBCW	nuclear, biological and chemical weapons
OSS	Office of Strategic Services (US)
PGM	precision-guided munitions
PSYOPS	psychological operations
RAAF	Royal Australian Air Force
RAF	Royal Air Force (UK)
RAR	Royal Australian Regiment
SAS	Special Air Service (UK)
SASR	Special Air Service Regiment (Australian)
SF	special forces
SOE	Special Operations Executive (UK)
SR93	Strategic Review 1993 (document)
UK	United Kingdom
US	United States of America
USAAF	United States Army Air Force (pre-1947)
USAF	United States Air Force (post-1947)
USSR	Union of Soviet Socialist Republics

ABSTRACT

This paper considers Strike as a strategic and operational-level technique from two perspectives: historical and theoretical. The historical perspective shows a long record of the land and maritime forms of Strike. The advent of the aeroplane opened new options for strategic strike, but changes in technology and the nature of the state also provided new opportunities for surface forces. Strike by land and maritime forces grew at the same time as air forces were proving themselves.

The theoretical perspective strips away many preconceived notions about Strike. The purpose for which Strike is being used drives the method pursued; and several different objectives are possible. The paper examines the various strike force options, and their different characteristics. The optimum mix depends on the circumstances—particularly the objectives pursued and the nature of the enemy system. Special forces and conventional land forces, with their innate flexibility, are often attractive Strike options. Further, by concentrating on objectives, it is possible to think laterally about the options. The paper argues that unconventional options such as guerrilla warfare, covert action, psychological operations and information warfare should not be ignored simply because they do not coincide with a view of Strike modelled on air attack.

Depending on the target set and objectives, strike forces usually need to be large enough to achieve a critical mass to be effective—and for deterrence to be seen to be effective. The paper argues that they also need to have the preparedness to give a timely and sustained response as circumstances unfold.

It is not possible to draw definitive conclusions about the ideal force structure for Australian Strike because of the ambiguous nature of Australia's strategic guidance—particularly the lack of information on conflict objectives, conflict termination and identification of the threat. This problem is further compounded by the size and diversity of the region, and the capacity for its economic, political and social structures to change rapidly. While some conclusions could be drawn for other roles relying simply on observations from Australia's geography and the limits of regional capability, the Strike role does not permit this. Resources would not allow Strike to do everything, and without a basis for identifying preferred target sets, it is not possible to derive an optimum force mix.

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INTRODUCTION

In 1960 the Minister for Air announced that Royal Australian Air Force (RAAF) was in need of a new type of aircraft to replace the Canberra bomber—a 'strike–reconnaissance' aircraft. This aircraft was to be 'a light bomber, with supersonic speed and long range, with precise navigation and bomb-aiming equipment and other electronic aids to enable it to operate with accuracy through cloud or at night.' An intercontinental bomber was too expensive and demanding. At the time, no suitable strike aircraft existed, although eventually it was the F111 that filled this role.[1]

The term 'strike' gradually found its place in the Australian military lexicon, initially as a synonym for aerial bombing. From the mid-1970s, the term was used to refer to the long-range attack capabilities of all three Services. In 1989, *Australia's Strategic Planning in the 1990s* (ASP90)[2] set out a list of Australian Defence Force (ADF) roles which included strategic strike. Strike was viewed as an attack with potentially strategic consequences rather than just any form of long-range attack.

The Strike[3] role, as it is conceived in Australia, is very unusual for three reasons.

First, how the ADF views Strike is, in the main, different from the way allied armed forces deal with it. In other armed forces, the term 'strike' has traditionally been reserved for discussion of nuclear strike at one end

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[1]   Hon. F. M. Osborne, DSC MP, *House of Representatives Hansard*, 31 March 1960, p. 809.

[2]   The unclassified version was published as Commonwealth of Australia, *Australia's Strategic Planning in the 1990s*, AGPS, Canberra, 1989. The roles are described in chapter 5.

[3]   For the remainder of this paper, the term 'Strike' with an initial capital is used to refer to the role, whereas 'strike' with a lower-case initial is used to refer to an attack.

of the spectrum and tactical strike at the other. In recent years it has also been applied to bombing campaigns such as were seen in Iraq and the former Republic of Yugoslavia. In contrast, the Australian Strike role has always been a type of attack that is conventional and usually 'strategic'.

Second, Strike is unusual amongst the Defence roles. Of all the ASP90 roles, only Strike is offensive and proactive in character. The other roles fit neatly within the model of layered defence inherited from the 1986 Dibb Report.[4] They tend to be defensive and reactive in character. This remains true even with the latest strategic guidance. The force development priorities in Chapter 7 of *Australia's Strategic Policy 1997* (ASP97)[5] are essentially a restatement of the old roles grouped into priority bands—still with the focus on defence of Australia. This is despite Chapter 5 of ASP97 recognising that 'defending regional interests' can now influence force structure.

The third reason is that Strike is the role that is most influenced by perceptions rather than analysis. What analysis there is tends to be highly classified and hence largely unknown. Further, the difficulty of the subject forces some analytical efforts to sink into the banality of restating the obvious.[6] Thus, the ADF is left with two sets of perceptions about Strike. The first set comes from air forces and air power theory. These sources provide most of the terminology and concepts used in discussing Strike, and have a very powerful influence. The second set comes from the way Australian official documents describe Strike in terms of the capabilities of F111 aircraft, submarines and Army special forces. Neither set of perceptions is particularly helpful.

This paper will not offer solutions for the ADF force structure. To do so would have required, inter alia, a detailed analysis of target systems and attack options which would have been a major analytical exercise.

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[4] Paul Dibb, *Review of Australia's Defence Capabilities*, AGPS, Canberra, March 1986.

[5] Department of Defence, *Australia's Strategic Policy*, Department of Defence, Canberra, 1997.

[6] Author's observation of the results of classified studies.

Moreover, it would have led to a highly classified paper that only a few people would be able to read. Instead, this paper addresses the way the ADF thinks about Strike, in particular the problems with the two sets of perceptions: air force thinking and the legacy of the existing order of battle. The resultant conclusions have implications for the way in which Army in particular participates in the development of Strike capabilities.

This paper is organised into three main parts. The first section is titled 'Strike History', which surveys the use of Strike in warfare. This section aims to show that Strike is not in essence a new form of warfare, and importantly that it is not fundamentally tied to concepts of air power. The second section on 'Strike Theory' will tease out the reasons for a strategy based on Strike and the way in which it can be made to work. The third section ('Strike and Force Structuring') draws on these conclusions to discuss how to approach force structuring for a Strike capability and highlights some problems that apply in Australia's case.

STRIKE HISTORY

In examining the Strike role, the historical record provides a useful starting place. It also produces some difficulties. The most obvious is that the term 'Strike', in its military sense, is a relatively recent one. Raiding, however, has a long pedigree.

Even so, throughout the history of land warfare raiding has primarily been a tactical-level measure. Raiding was not thought to be necessarily war winning, but it could make a useful contribution. Thus early armies evolved forms of light cavalry, and sometimes heavier forces, which practiced this form of warfare. Raids were often considered, alongside patrolling, as a method to gain intelligence on an enemy, by taking prisoners and probing weaknesses. They also served to dominate the area surrounding an army or the no-man's-land between two armies, thus helping provide for its security. Despite this, examples exist of raiding being used on a large scale specifically to change the course of the war.

The two concepts—Strike and raiding—are not identical; there are some important differences. Nevertheless, most Strikes are also raids, and vice versa. They involve a sudden attack on an enemy's vulnerability, followed by a regrouping for further operations. Thus, this section will

treat 'raiding for a strategic purpose' as being nearly synonymous with 'strategic strike'.

The historical record is important for placing the influence of air power thinking in context. It shows that Strike concepts predate aircraft and are not conceptually dependent on them. Nevertheless, the aircraft was important in terms of both the capabilities it provided and the challenges it offered to thinking about the conduct of warfare.

Strike before Air Forces

Raiding is an ancient form of warfare. The ancient empires of Egypt and Mesopotamia faced raids on their borders and responded with expeditionary forces.[7] Raiding almost certainly also predates written history. Anthropologists studying the behaviour of primitive tribes discovered only this century in Papua New Guinea and the Amazon jungle observed that raiding was used as a method of warfighting.[8]

The first clear example of Strike being used in conflict between equivalent states, where the strategic purpose is clear, occurs with the Peloponnesian wars. Athens was a powerful maritime nation, while Sparta and its allies were stronger on land. Greek siege-craft at the time was, at best, primitive. Thus, Pericles adopted the strategy of abandoning the countryside of Attica, leaving the city of Athens secure behind its walls and using the fleet to raid enemy rear areas. The war was thus converted to a contest of attrition.[9]

Certainly, raiding remained a speciality of primitive peoples and 'barbarians'. However, here (and even in 'civilisations') it can be unclear as to whether the raiding was in pursuit of some strategic purpose or merely in search of plunder, hostages and slaves. In response to such raids, forces like the Romans would mount expeditions to defeat

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[7]   Arthur Ferrill, *The Origins of War: From the Stone Age to Alexander the Great*, Thames and Hudson, London, 1985, pp. 47ff; Viscount Montgomery of Alamein, *A History of Warfare*, Collins, London, 1968, pp. 32–3.

[8]   John Keegan, *A History of Warfare*, Hutchinson, London, 1993, pp. 94–103.

[9]   Donald Kagan, *On the Origins of War and the Preservation of Peace*, Doubleday, New York, 1995, pp. 63ff.

- Nelson's attack on Copenhagen in 1801;[15]

- the British burning of Washington in 1814;[16]

- various raids by both sides in the American Civil War. The most spectacular were John Mosby's two-year guerrilla campaign against the Union in northern Virginia,[17] and the bank raid in St Albans, Vermont, staged by Confederate elements operating out of Canada;[18]

- the Japanese surprise attack on the Russian fleet in Port Arthur, China in 1904;[19] and

- the sinking of old cruisers in the entrances to the Belgian ports of Zeebrugge and Ostende in 1918 to deny their use to German submarines.[20]

Although not comprehensive, this list highlights some of the best known and most spectacular strategic strike operations in each era. In between are numerous, less well known examples: shore bombardments, expeditionary forces, and so on.

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[15] Christopher Lloyd, *Nelson and Sea Power*, English Universities Press, London, 1973, pp. 92–105; G.J. Marcus, *A Naval History of England, 2: The Age of Nelson*, George Allen & Unwin, London, 1971, pp. 170–192.

[16] Reginald Horsman, *The War of 1812*, Eyre & Spottiswoode, London, 1969, pp. 194–214.

[17] Jeffrey D. Wert, *Mosby's Rangers*, Simon and Schuster, New York, 1990.

[18] Dennis K. Wilson, *Justice Under Pressure: The Saint Albans Raid and its Aftermath*, University Press of America, Lantham MD, 1992.

[19] Denis and Peggy Warner, *The Tide at Sunrise: A History of the Russo-Japanese War, 1904–1905*, Angus and Robertson, London, 1975, pp. 14–20; David Walder, *The Short Victorious War: The Russo-Japanese Conflict 1904–5*, Hutchinson, London, 1973, pp. 57ff.

[20] James W. Stock, *Zeebrugge and Ostend*, Ballantine, New York, 1973; Alfred F.B. Carpenter, *The Blocking of Zeebrugge*, Herbert Jenkins, London, 1921; C. Ernest Fayle, *Seaborne Trade Vol. III: The Period of Unrestricted Submarine Warfare*, History of the Great War Based on Official Documents, John Murray, London, 1924, pp. 309–10.

In addition, we could include naval campaigns directed at shipping: *guerre de course* and blockade. These are not raids, per se, but they are legitimate examples of Strike.

Finally, support to allies that engaged in raiding at a tactical or operational level can also be defined as a form of strategic strike—an issue that will be addressed further in the next part of the paper. Examples include the use of irregulars and Indian allies during the Seven Years War in North America,[21] the British support to the Spanish in the Peninsular War against Napoleonic France,[22] and the British support to the Arab revolt against the Turks from 1916.[23]

Strike in Modern Times

With the introduction of aircraft, a new form of Strike became possible. It was now possible to attack targets deep inside enemy territory by air. Despite this, the other methods for conducting Strike remained, and became even more common. By World War II Strike was a common form of warfare. Examples were found in every theatre and included:

- aerial bombardment campaigns: the Blitz, the UK and US Combined Bomber Offensive against Germany, and the US bombing campaign against Japan;

- naval raids on fleets in harbour and their facilities, for example, the British attack on the Vichy French fleet in West Africa, the Japanese attack on Pearl Harbor and even the Japanese midget-sub raid on Sydney;

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[21] Rupert Furneaux, *The Seven Years War*, Hart-Davis MacGibbon, London, 1973; Burt Garfield Loescher, *Genesis—Rogers Rangers—The First Green Berets*, San Mateo CA, 1969.

[22] David G. Chandler, *On the Napoleonic Wars: Collected Essays*, Greenhill Books, London, 1994, pp. 166ff.

[23] Sir George MacMunn and Cyril Falls, *Military Operations Egypt and Palestine: From the Outbreak of War with Germany to June 1917*, History of the Great War Based on Official Documents, HMSO, London, 1928, pp. 230ff.

- raids by elite units: from large-scale attacks such as on the French port of St Nazaire to small teams that destroyed shipping in Singapore, and dozens of other operations;

- campaigns against seaborne trade, including the blockade of Germany, the activities of German submarines and commerce raiders, the American submarine operations against Japan, and widespread use of sea mines; and

- support to resistance movements within occupied territories: the Russian partisans, the underground in Europe, the Chinese Communist guerrillas and other clandestine groups.

Explaining the Rise of Strike

The rise of Strike as an instrument of warfare in the twentieth century can be attributed to a number of factors: the capabilities of attacking forces, the significance and vulnerability of potential targets and developments in strategic thinking. All three of these factors are interrelated.

Attacking forces had become significantly more capable, largely because of new technologies. Mobility had increased markedly in the twentieth century. Previously, mobility was provided by foot, horse, oar or wind. The petrol engine led to both powered flight, and increased speed and mobility on land. Similarly, technology allowed the introduction of submarines and capable small sea-craft. Thus, not only could bomber aircraft attack targets at great distances, but groups of men could be surreptitiously transported and inserted at distances never before imagined.

Improvements were made in lethality and weapons accuracy. In the nineteenth and twentieth centuries new forms of explosives appeared, and new weapons: the breach-loading rifle, the machine gun, shaped charges, rockets and missiles. Thus, while a small group of men would have achieved little in the past; today a small raiding force can cause immense damage.

Endurance—or what might be described as logistics, broadly defined—has also improved markedly from the days when armies relied on foraging and large baggage trains, and navies on coaling stations. Much of the technology that contributed to mobility also led to more efficient resupply systems and forces that were more self-sufficient. In addition, other technical advances contributed to the sustainability of forces operating at long distances from their fixed infrastructure: packaged foods, modern medicines, electric batteries and generators.

There has also been a revolution in command, control, communications and intelligence (C^3I). Reliable and rapid, long-distance communications allow Strike forces to be precisely controlled, while intelligence can now better identify targets and their defences, particularly thanks to the development of signals intelligence and overhead imagery.

The nature of states has changed, leading to new imperatives and opportunities for targeting. These changes affected both the structures of the economy and society. The French Revolution saw the revival of total war in Europe, and from that time it was a frequent phenomenon for the whole resources of the state to be applied in conflict. At the same time, the industrial revolution made the states themselves both more capable and more diversified. States became increasingly democratic, while participation in war extended to whole populations directly through conscription or indirectly through state industry. This provided a new range of potential strategic targets in industry and national will, which in the past might have only rated as minor considerations.

Finally, the circumstances of the major conflicts of the twentieth century help promote thinking about alternative forms of warfare. World War I presented a stalemate in the West, and many theorists sought new ways to achieve a quick, clear and less bloody decision. It was natural for new technology to be seen as part of the solution. Thus, advocates of strategic bombing hoped to extend on the air raids of the Great War. Tank warfare and poison gas also had advocates.[24] At a theoretical level,

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[24] For example, B. H. Liddell Hart, *Paris: or the Future of War*, Garland, New York, 1972; J. F. C. Fuller, *The Reformation of War*, Hutchinson & Co., London, 1923.

Liddell Hart discussed what he called the 'indirect approach'[25] and the British way of warfare—what he viewed as a traditional strategy based on maritime strength, expeditionary forces and diplomacy.[26] The circumstances in World War II after Dunkirk in many ways resembled the Peloponnesian wars: a stalemate on land that prevented a quick decision, and asymmetrical force structures. Arguably, the same could be said about the Cold War, although nuclear weapons probably contributed to the stalemate more than asymmetrical force structures did.

Aircraft provide a very useful option for circumventing the continuous front-lines that became common in land warfare in this century, and for attacking vulnerable targets well to the rear. Nevertheless, the bomber aircraft remains just one of a range of approaches. Transport aircraft and helicopters can insert land forces, and a variety of combinations with maritime forces exists.

Uses of Land Force Strike in Modern Times

Land forces can still be employed at long distances and the options for using them have actually increased. It is worth surveying some examples of land force operations in the last sixty years to appreciate their full diversity.

Destruction and Neutralisation of Military Units

Land forces rarely attack other land combat forces as the objectives of a Strike operation. Strike forces are often themselves quite vulnerable, operating at long distances from their bases and sources of support, and often on light scales. However, this does not constrain them from attacking the assets of other Services or support units.

An example of the value of this type of operation was seen during the Western Desert campaign of World War II. Both the Special Air Service (SAS) and the Long Range Desert Group (LRDG) operated behind

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[25] B. H. Liddell Hart, *Strategy*, 2nd rev. edn, Meridian, New York, 1991, pp. 144–7.

[26] B. H. Liddell Hart, *When Britain Goes to War*, Faber & Faber, London, 1932.

enemy lines, relying on vehicles for their mobility and surprise. In the division of effort, the LRDG specialised in reconnaissance and the SAS in raiding, although some combined operations were mounted. In the course of the campaign (1941–43), the SAS destroyed some 400 Axis aircraft on the ground.[27]

The same style of operation has been repeated more recently. During the 1982 Falklands War, an SAS raid on Pebble Island destroyed 11 Argentine aircraft while the British suffered only two wounded.[28]

Naval combatants have been attacked in port. For example, in December 1941 Italian frogmen attacked and sank two British battleships and tanker, and damaged a cruiser, in Alexandria harbour in Egypt.[29]

While Strikes against land forces are rare, examples exist. For the Australian Army, a salient experience came during the Confrontation with Indonesia. During that campaign, Indonesia signalled its opposition to the formation of the Malaysian federation by infiltrating guerrillas into Malaysia, and later adding raids by regular Indonesian units. The British Commonwealth forces eventually responded in kind with covert reconnaissance and ambushing operations, codenamed *Claret*, which were designed to disrupt the Indonesian operations on their side of the Kalimantan border. Both the Australian Special Air Service Regiment (SASR) and regular infantry were involved in these operations.[30]

During the 1991 Gulf War special forces were employed to combat the threat posed by mobile Iraqi SCUD missile launchers. British and US

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[27] William Seymour, *British Special Forces*, Sidgwick & Jackson, London, 1985, p. 205.

[28] *Ibid*., p. 313.

[29] William H. McRaven, *Spec Ops: Case Studies in Special Operations Warfare Theory and Practice*, Presidio, 1995, pp. 73ff.

[30] Peter Dennis, Jeffrey Grey, Ewan Morris and Robin Prior, *The Oxford Companion to Australian Military History*, Oxford University Press, Melbourne, 1995, pp. 171–3; David Horner, *SAS: Phantoms of the jungle— A history of the Australian Special Air Service*, Allen & Unwin, Sydney, 1989, pp. 83ff.

special forces were used both to attack enemy launchers and to designate them for air attack, with mixed results.[31]

Destruction and Neutralisation of Physical Assets

Physical assets can often be an attractive target. Operating bases, repair facilities, factories, communications, transport, fuel and power infrastructure and sensors have been the sort of target most commonly attacked by raiding land forces.

The French port of St Nazaire was the target of a major attack in March 1942. It contained what was then the world's largest dry dock, capable of supporting the German battleship *Tirpitz*. To remove the risk to Atlantic shipping that would exist if the German ship used this port, a large-scale commando raid put the dock out of service for the duration of the war, but the attackers suffered very heavy causalities.[32]

Had the Germans acquired nuclear weapons during World War II, the strategic situation would have been very different. To delay the German progress, the Allies mounted a number of raids against their source of heavy water, the Norsk hydro-plant at Vemork in Norway. A raid by a glider-borne party of Royal Engineers in November 1942 ran into bad weather and navigation problems, and the entire raiding team was lost. In February 1943, a small team of Norwegian resistance fighters caused severe damage to the plant, putting it out of operation for five months. Later American bombing only slowed further production. However, when the Germans chose to move their stocks of heavy water, the Norwegian underground was able to sink the ferry carrying it.[33]

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[31] Centre for Defence and International Security Studies, *Special Forces Operations in Desert Storm*, Lancaster University, 1996 [http://www.cdiss.org/scudnt5.htm]; Centre for Defence and International Security Studies, *The Great Scud Hunt: An Assessment*, Lancaster University, 1996 [http://www.cdiss.org/scudnt6.htm]

[32] Philip Warner, *The Secret Forces of World War II*, Granada, London, 1985, pp. 81–5; William Seymour, *British Special Forces*, Sidgwick & Jackson, London, 1985, pp. 19–20.

[33] Philip Warner, *op. cit.*, pp. 42–4.

In the Pacific theatre, the most spectacular operation (Operation *Jaywick*) took place in late 1943, when a small team of saboteurs from the Australian Z Special Unit journeyed from Australia to Singapore in a fishing boat, entered Singapore harbour in canoes, planted limpet mines and successfully returned to Australia. The Japanese lost seven merchant ships in the attack. An attempt to repeat the operation a year later, however, proved a disaster.[34]

Capturing Physical Assets and Personnel

Sometimes the raid aims to capture some object, individual or individuals. New technology and prominent leaders can have a profound influence on the course of a campaign. In these cases, land forces are able to perform a role that the other Services cannot.

A crucial issue in the Allied air campaign in Europe during World War II was to determine the quality of German radar defences. An early German radar sat on the French coast at Bruneval. In February 1942, an airborne company group landed, removed crucial components from the radar, and was evacuated by sea with only light casualties.[35]

In November 1941, the British hatched a daring scheme to seize General Rommel from a villa in Libya. They landed a party of commandoes from two submarines, but little went right with the operation. The weather was bad and only half the party got ashore. To compound matters, intelligence was faulty, and Rommel was nowhere near the scene. In the end, only two commandoes managed to escape.[36]

The efforts of US special forces in Somalia to capture Mohammed Farah Aideed and his key officers is a more recent example. Unfortunately, Task Force Ranger ran into an ambush in October 1993 and suffered heavy losses, with 18 killed and 73 wounded (over half the assault team). Rather than securing an important blow against Aideed's guerrilla

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[34] Peter Dennis, Jeffrey Grey, Ewan Morris and Robin Prior, *op. cit.*, pp. 324–5.

[35] Philip Warner, *op. cit.*, pp. 40–1; William Seymour, *op. cit.*, p. 23.

[36] Philip Warner, *op. cit.*, pp. 79–80; Barrie Pitt, *The Crucible of War*, 2nd edn, Vol. 2: Auchinleck's Command, Macmillan, 1986, pp. 39–42.

infrastructure, the Americans suffered a psychological defeat that in turn led them to abandon the campaign.[37]

Raids as a Psychological and Diversionary Tool

With many strategic raids, the target may not be particularly valuable; it may contribute only a little to the enemy's national power. The psychological consequences, however, may be more than sufficient to justify the operation. A success may prove valuable to supporting the national psyche, just as a defeat can be unsettling to the opponent. Further, the demonstration of capacity may compel the defending side to allocate resources to cope with this threat, leaving them thinly stretched or unable to act in other—perhaps more significant—areas.

For Britain in the immediate aftermath of Dunkirk, commando operations, support to resistance movements and strategic bombing fell into this category. None was militarily a significant threat, but they demonstrated Britain's resolve. Thus Norway was an attractive destination for many of the early British commando raids: sparsely defended, low risk, and not in anyone else's area of operations.[38]

A successful rescue mission can be an important psychological boost. When the Italian Government changed sides to the allies, glider-borne SS troops led by Otto Skorzeny snatched Mussolini from his hilltop prison and returned him to Hitler.[39] The Israeli Defence Force had a similar success in 1976, when four terrorists flew a captured Airbus and its Israeli passengers to Entebbe airport where the terrorists had the extra protection afforded by complicit Ugandan armed forces. An airlanded team freed most of the hostages, killed the terrorists, destroyed 11 Ugandan fighter aircraft and extracted in just an hour and a half.[40]

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[37] Mark Bowden, 'Blackhawk Down: A Defining Battle', *Philadelphia Inquirer*, 16 November 1997.
[http://www3.phillynews.com/packages/somalia/nov16/rang16.asp]

[38] William Seymour, *op. cit.*, pp. 15ff.

[39] James Lucas, *Kommando: German Special Forces of World War II*, Arms & Armour Press, London, 1985, pp. 99–101.

[40] Kent A. Valentine, 'Terrorists who hijacked an airliner thought they had found safety in Uganda. They were wrong', *Military History*, Vol. 13, No. 2, June

Other rescue missions have not been as successful. In 1970, US special forces penetrated deep into North Vietnam to find that the Son Tay prisoner of war camp was empty.[41] When Cambodian forces seized the USS *Mayaguez* in 1975, a US Marine rescue mission found itself in the midst of a firefight. The crew that they intended to rescue was in fact elsewhere, and was returned by the Cambodian authorities as the Marines attempted to extract themselves.[42] The 1980 attempt to rescue hostages from the captured US embassy in Teheran ended in disaster as aircraft collided on the remote Desert One airfield.[43] When the US intervened in Grenada after the 1983 coup, the safety of certain groups of people was an important consideration. The Rangers sent to rescue some 600 American students were unaware that the students were divided between two campuses on the island. However, the Rangers succeeded largely due to the overwhelming force that they used during their mission. Meanwhile, the SEAL team sent to rescue the Governor-General found itself trapped in his mansion unable to escape, and the Delta Force attack on the prison was aborted with heavy casualties.[44]

Factors Affecting Success in Raids

The Strike missions described above varied markedly in their outcomes—from unqualified success through to disaster. In many cases, intelligence, planning and force preparation were inadequate. Often the decision on how much time to allow before an operation was mounted

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1996.
[http://www.thehistorynet.com/MilitaryHistory/articles/06962_cover.htm]

[41] David W. Hogan Jr, *Raiders or Elite Infantry? The Changing Role of the US Army Rangers from Dieppe to Grenada*, Greenwood Press, Westport CT, 1992, pp. 174–6.

[42] Philip D. Chinnery, *Any Time, Any Place: Fifty Years of USAF Air Commando and Special Operations Forces, 1944–1994*, Naval Institute Press, Annapolis MD, 1994, pp. 219–21.

[43] Philip D. Chinnery, *ibid.*, pp. 225–31; Charlie A. Beckworth and Donald Knox, *Delta Force*, Arms & Armour Press, London, 1983.

[44] Philip D. Chinnery, *op. cit.*, pp. 237–42; David W. Hogan Jr, *Raiders or Elite Infantry? The Changing Role of the US Army Rangers from Dieppe to Grenada*, Greenwood Press, Westport CT, 1992, p. 220.

proved difficult—from those that were too hasty to those (such as Son Tay) that took so long that the situation on the ground had changed.

In addition, raids can be particularly susceptible to fate: in war, nothing is certain. The defender tries to anticipate the attacking force's actions, and long-distance raids have many points where failure can occur. Bad weather, an unexpected patrol, mechanical failures, accidental collisions can all happen. With enough bad luck, the operation's margin of safety can be eroded.[45]

The point here is not that certain operations succeeded and others failed, but rather the potential all displayed to achieve strategic or operational-level results.

A Background to Air Power Strike

Australian defence thinking on Strike has much of its origins in air power theory. The early air power theorists saw the aeroplane as a means of avoiding the stalemate they witnessed on the western front in World War I. Theorists such as Giulio Douhet,[46] Billy Mitchell[47] and Hugh Trenchard[48] believed that their new weapon could strike at the heart of the enemy—his cities—in a way that would quickly bring war to a conclusion, avoiding the frontal clash of armies. These theorists argued that air attack on population centres was thus simultaneously an

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[45] See the discussion of Friction in Carl von Clausewitz, *On War*, ed and trans by Michael Howard and Peter Paret, Princeton University Press, Princeton NJ, 1984, pp. 119–23.

[46] Giulio Douhet, *The Command of the Air*, Ayer Co, North Stratford NH, 1984.

[47] William Mitchell, *Winged Defense: The Development and Possibilities of Modern Air Power—Economic and Military*, Kenneikat Press, Port Washington NY, 1971, pp. 126–7. It is argued that too much emphasis is put by some authors on Mitchell as an advocate of bombing, rather than air power in general, for example, David MacIsaac, 'Voices from the Central Blue: The Air Power Theorists', in *The Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret, Princeton University Press, Princeton NJ, 1986, p. 625.

[48] Alan Stephens, 'The True Believers: Air Power Between the Wars' in *The War in the Air 1914–1994*, ed. Alan Stephens, Royal Australian Air Force Air Power Studies Centre, Canberra 1994, pp. 47ff.

instrument of terror and a new, more humane form of warfare.[49] The experience of World War II showed that, even with great leaps in aircraft technology, their expectations were too high, and importantly, civilian morale proved too robust a target.

Growing in parallel with this school of thought was a related one that believed that decisive effects could be achieved by the selective destruction of point targets—the view that was most strongly advocated by the US Army's Air Corps Tactical School, [50] and explored in Australia in the writings of Air Vice-Marshal Wrigley.[51] The tensions between the two schools were reflected in the radically different doctrines adopted by Britain's Royal Air Force (RAF) and the United States Army Air Force (USAAF) in Europe during World War II. While the RAF pursued night bombing of area targets (aimed primarily at civilian morale), the USAAF pursued daylight 'precision' bombing. In that era, however, technology did not allow factory-sized targets to be easily hit and destroyed, and the German economy proved to have a greater level of resilience and redundancy than expected.[52]

Since the end of World War II, technological developments have kept alive the prospect of a knockout blow delivered from the air. The advent of nuclear weapons offered the ultimate area and terror weapon. At the other extreme, precise navigation systems, increasingly accurate weapons guidance systems and new intelligence collection techniques made engaging precision targets more achievable.

The RAAF developed a sizeable bomber force during World War II to operate alongside the RAF over Europe, and independently against some

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[49] Alan Stephens, *In Search of the Knock-out Blow: The Development of Air Power Doctrine 1911–1945*, Paper No. 61, Air Power Studies Centre, Canberra, 1995. [http://www.defence.gov.au/apsc/publish/paper61.htm]

[50] Stephen L. McFarland, *America's Pursuit of Precision Bombing, 1910–1945*, Smithsonian Institute Press, Washington, 1995, pp. 89–104.

[51] Alan Stephens and Brendan O'Loghlin (eds), *The Decisive Factor: Air Power Doctrine by Air Vice-Marshal H.N. Wrigley*, AGPS, Canberra, 1990, pp. 30, 38–9.

[52] *The United States Strategic Bombing Survey*, Vol. I, Garland Publishing, New York and London, 1976, 'Summary Report (European War)', p. 2.

smaller targets in the Pacific.[53]   After the war, the RAAF continued to
see a need for bombers, initially acquiring the Lincoln, with a view to
having it operate alongside Commonwealth air forces in much the same
way it had during wartime. The Lincoln was in turn replaced by the
Canberra. In 1963, with pressure from the Opposition and with
Indonesia now threatening Malaysia in what became known as
Confrontation (or *Konfrontasi*), the Australian Government agreed to
buy the F111.[54]

In the late 1950s, and into the 1960s, the RAAF held out hopes of
equipping itself with nuclear weapons to give it a truly independent
capability.[55]   For some contemporary commentators, the F111 only
made sense as a vehicle to carry nuclear weapons.[56]

The F111 proved controversial. Ordered off blueprints, it suffered from
mechanical problems, cost overruns and delays. In the early 1970s, while
still awaiting delivery of the F111, the RAAF temporarily employed the
F4E Phantom. With the arrival of the F111 in 1973, the RAAF had
obtained a Strike capability—it could bomb targets at long range with
relative ease, albeit in limited numbers and not with precision-guided
munitions (PGMs) until the 1980s.

The success of air power has been the subject of intense debate, since the
introduction of the aircraft as a weapon of war. This debate has been
encouraged by the extreme claims of Douhet, and some later air power
advocates, that air power is not only necessary to win wars but that by
itself it could be decisive, making the other Services effectively
redundant.[57]   Advocates of strategic bombing cite as examples of

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[53]   Royal Australian Air Force, *The Air Power Manual*, 2nd edition, DI(AF)
    AAP 1000, Air Power Studies Centre, Canberra, March 1994, p. 94.

[54]   Alan Stephens, *Going Solo: The Royal Australian Air Force 1946–71*,
    AGPS, Canberra, 1995, ch. 20.

[55]   Jim Walsh, 'Surprise Down Under: The Secret History of Australia's Nuclear
    Ambitions', *The Nonproliferation Review*, Vol. 5, No. 1, Fall 1997.
    [http://cns.miis.edu/pubs/npr/walsh51.htm]

[56]   T. B. Millar, *Australia's Defence*, 2nd edition, Melbourne University Press,
    Melbourne, 1969, pp. 119–20.

[57]   Giulio Douhet, *op. cit.*

successful bomber use the Combined Bomber Offensive against Germany, the bombing of Japan in World War II culminating in the use of nuclear weapons, the *Linebacker II* campaign in Vietnam[58] and the bombing phase of the 1991 Gulf War.[59]

Bomber opponents focus on other campaigns.[60] *Rolling Thunder* in Vietnam achieved little (too many restrictions on targets say the advocates). Similarly, the USSR failed against the Mujaheddin in Afghanistan. Likewise, in other limited wars and low-intensity conflicts, air power proved not to be decisive. Opponents of air Strike claim that bombing has failed to break the civilian morale, and too often has not fully disabled the vital target systems. They question the resources that are dedicated to bombing campaigns and suggest that other possible uses would have achieved better results—either in expanding the other Services, or providing tactical air support to the army and navy.

It remains difficult to unravel the competing claims and counterclaims. The major bombing campaigns of World War II and the Gulf War were parts of a total war effort, and it is difficult to separate the parts. The attrition against Germany included the air campaign, a naval blockade and two fronts on land—all tearing away at the state's resources. The campaign against Japan was similar. In the Gulf War, air attack significantly weakened the Iraqis; nevertheless, it ultimately required land forces to compel an Iraqi withdrawal from Kuwait. As this paper is being written, debate is raging as to what NATO air attacks on Serbia will be enough to compel humane behaviour in Kosovo.

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[58] Karl J. Eschmann, *Linebacker: The Untold Story of the Air Raids over North Vietnam*, Ivy Books, New York, 1989; Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam*, The Free Press, New York, 1989.

[59] Gary Waters, *Gulf Lesson One—The value of Air Power: Doctrinal Lessons for Australia*, Air Power Studies Centre, Canberra, 1992; Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey*, US GPO, Washington DC, 1993.

[60] John Arquilla argues that the side with clear air superiority at the start of the campaign has lost almost as many times as won. John Arquilla, *Dubious Battles: Aggression, Defeat and the International System*, Crane Russak, Washington, 1992, pp. 88–9, 159–60.

This paper does not seek to make generalisations about the efficacy of air power.

Clearly, aircraft can make a great contribution in many cases; however, the efficacy of air power depends on the circumstances. At times, they can be favourable, with clear, easily identifiable, fragile but important targets. There may be few restrictions on the use of air power and defences that can be overcome. At other times, the reverse can apply. Likewise, the conditions may favour or hamper other modes of attack. The best Strike option depends very much on the situation, an issue that the paper will address next.

STRIKE THEORY

This second part of the paper provides a theoretical examination of the nature of Strike. This examination starts from the premise that all acts in war serve some purpose; understanding that purpose enables us to identify the actions that are needed. To start with, it is necessary to revisit the definitions.

Definitions Revisited

Defining Strike ought to be a simple task, but in practice the issue is more complex. In doctrine, the following definition is found:

> **strike** (NATO)
> An attack that is intended to inflict damage on, seize or destroy an objective.
>
> ADFP101

Clearly while 'strike', per se, includes any type of attack, Strike—the role—is distinct from tactical or battlefield strikes. Again, the doctrinal definition of 'strategic strike' does not help clarify the issue:

> **strategic strike operations**
> Offensive actions designed to effect the progressive destruction and disintegration of the enemy's capability to wage war.
>
> ADFP101

This definition assigns a place to Strike based on the purpose for which it is carried out. Here Strike is indeed 'strategic' in its outcome. Yet, this particular outcome—destruction of the enemy—is an extreme one. As is discussed later, current and previous Australian strategic guidance usually had some less ambitious outcome in mind as the primary purpose of Strike.

In effect, Strike has been defined by the capabilities of three unique but existing force elements: F111 bombers, submarines and special forces. However, this approach is problematic as these assets can be used in ways that are tactical as well as strategic and operational, and ignores new capabilities or the development of existing capabilities.

Discussion of Strike invariably invokes a number of characteristics that can be put into four categories: Strike is offensive, long-ranged, independent, and 'strategic'.

- **Offensive**. By its nature, Strike is an offensive role. Strike operations would be used to exploit or regain the initiative. Often strike forces are themselves vulnerable, and require the advantage of surprise to maximise their effect and survivability. The effects are designed to be potent, and more so due to careful target selection.

- **Long-range**. Strike targets are usually described as being outside the immediate area of operations, or in the national territory of the adversary. With increasing emphasis on concepts such as deep battle and non-linear battlespace, the demarcation lines tend to blur. Yet, it remains that the most sensitive and vulnerable targets are often located in the adversary's heartland. Industrial infrastructure, military support areas and national command infrastructure are some examples of Strike targets.

- **Independent**. Strike operations are often conceived of as being independent—both in the sense that the operation is conducted exclusively by constituents of one force element or Service, and in that the planning and conduct of the operations are distinct from other warfighting. Exceptions exist, however. While submarine operations may be force element–specific, and air attack can be single-Service,

special force operations are usually joint. It is distance and the unique characteristics that are being optimised for each operation that tends to restrict the range of forces that can contribute (that is, only those with long-range and offensive punch). Similarly, high levels of secrecy and the unique planning skills involved often see Strike operations controlled by a specialised headquarters or a specialised staff element in a headquarters. Ideally, however, they are contributing to the same strategic aims as other campaigns, and all operations are closely coordinated. If anything, independence should be viewed more as an unavoidable feature rather than a desirable characteristic.

- **Strategic**. Traditionally the role has been called 'strategic strike', only changed to simply 'Strike' in ASP97. Implicit in the original name is that the role has strategic consequences. Often it does, but it can also involve effects that are limited to a particular campaign or theatre; these effects are therefore better described as 'operational level'. Certainly, Strike is more than just battlefield or tactical strike. From the capability perspective, clearly the most important issue is the effect that Strike has.

This paper defines Strike as a campaign or an operation that shares these four characteristics. Arguably, there are many grey areas generated by this approach. Long-range, strategic and even offensive character and independence can only be assessed as relative measures, and any precise demarcation is likely to be arbitrary. For example, in land warfare, we might define a force as being engaged in offensive operations if it is generally moving in the direction of the adversary's centre of mass. Yet, in mobile defence, where there are no established frontlines or in low-intensity conflict, this may not be as clear. It is often the case that, while one command level may be engaged in offensive or defensive operations, elements below it may be engaged in the other. This problem is even greater with naval and air forces.[61]

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[61] For a discussion of the problem with levels of war, see Martin Dunn, 'Levels of War: Just a Set of Labels?', *Research and Analysis: Newsletter of the Directorate of Army Research and Analysis*, No. 10, October 1996, pp. 1ff.

The area that might generate the most debate is whether the definition should address the duration of the operation. Air raids are by nature short, and it can be argued (taking the air model as an implicit definition of Strike) that all other Strike operations should similarly be short. This is not a convincing argument. First, we need to keep the effect we want to achieve at the forefront of our minds; this effect is often prolonged— or at least the perception is generated that it could be prolonged. Second, the single attack is the wrong level of analysis unless by itself it disables a key target or target system. Air campaigns can be protracted over months or years involving many sorties.

A more significant argument is the way in which Strike might be considered a separate subset of offensive operations. The two primary ways of offensive action against an adversary's territory are Strike and a full-scale offensive, including both invasion and occupation, and the defeat of the enemy's main forces in battle. The question is how does this differ conceptually from Strike (other than not being independent). For example, like Strike, advancing land forces offer quite literally 'offensive actions designed to effect the progressive destruction and disintegration of the enemy's capability to wage war'—the doctrinal definition of strategic strike.[62] Invariably we are forced to consider Strike in terms of a blow or series of blows, and implicitly that occupation of territory is not part of Strike.

Unconventional Strike

In defining Strike (the role) in terms of its characteristics, this paper departs from the orthodox notions of 'conventional strike'. Significantly, unconventional Strike options are included as part of the role, for example, guerrilla operations, [63] psychological operations (PSYOPS),[64] electronic warfare (EW),[65] information warfare (IW),[66]

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[62] Australian Defence Force Warfare Centre, *Australian Defence Force Publication 101: Glossary*, 1st edn, 1994 (ADFP101).

[63] ADFP101 defines *guerrilla warfare* as 'military and paramilitary operations conducted in enemy held or hostile territory by irregular, predominantly indigenous forces'.

[64] ADFP101 defines *psychological operations* as 'planned psychological activities in peace and war directed to enemy, friendly and neutral audiences in order to influence attitudes and behaviour affecting the achievement of

blackmail, bribery and assassination. Some of these are best undertaken by armies and paramilitary forces. Equally, naval campaigns against shipping also fall within this definition.

In *A Coast Too Long*, Ross Babbage argued that Australia should develop a defence strategy around diplomatic and unconventional forms of pressure.[67] He mounts some powerful arguments that such a strategy can be more effective for Australia. His strategy suffers from being aimed at the vulnerabilities of ruling elites, but the national leadership might be the first thing to change in a period leading to conflict with Australia. Even if the elites did not change, they may not be as vulnerable as can be portrayed in a theoretical study, and we could risk inappropriately applying Australian political values to the circumstances in a different country.

For many, the idea of defining Strike to embrace unconventional warfare is not easily accepted. One ADF forum offered a definition that '*Strike* means *bangs*'.[68] Yet, Strike is actually about an outcome, and it is necessary to consider the unconventional together with the conventional to appreciate fully the options available.

Guerrilla Warfare

While land forces may be inserted behind enemy lines to achieve a specific mission and then withdraw, on other occasions they may aim to

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political and military objectives. They include strategic psychological activities, consolidation psychological operations and battlefield psychological activities.'

[65] ADFP101 defines *electronic warfare* as 'The military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy.'

[66] United States Army, *Information Operations*, FM 100–6, Washington DC, 27 August 1996, defines information warfare as: 'actions taken to achieve information superiority by affecting adversary information, information-based processes, information systems, and computer-based networks while defending one's own information, information-based processes, information systems and computer-based networks'. [http://www.fas.org/irp/doddir/army/fm100-6/glossary.htm]

[67] Ross Babbage, *op. cit.*, ch. 4.

[68] Strategic Strike Operational Concept Working Group, circa 1992.

cause prolonged distraction in the rear. Land forces used in this role are at times deliberately inserted, and at other times simply remain behind (voluntarily or involuntarily) as the enemy advances. They may operate using their own resources, reliant on support from outside, but often they aim to raise local forces that can do the bulk of the fighting.

Australia's experience in this kind of warfare was found in Timor during World War II. The 2/2nd Independent Company, later reinforced by the 2/4th Independent Company, undertook a yearlong guerrilla campaign against the Japanese until all the forces were withdrawn at the start of 1943.[69]

Most support to guerrilla movements during World War II was channelled through intelligence or quasi-intelligence agencies: the British Special Operations Executive (SOE), the US Office of Strategic Services (OSS), and in the Pacific the Allied Intelligence Bureau (AIB). These agencies used military personnel, equipment, facilities, logistics, transport and uniforms. In the wake of the D-Day landings the agencies dropped 276 personnel, in uniform, in three-man teams known as Jedburghs, to support the *Maquis*, and a further 355 in larger teams known as Operational Groups.[70]

During World War II, Australia maintained an agency known by various names including 'Special Operations Australia', the 'Services Reconnaissance Department' and the 'Inter-Allied Services Department', but it is best known under the name of the Z Special Unit, which administered the attached Service personnel. Its wartime record was mixed. In Dutch East Indies and Timor its operations achieved little, although it did organise some successful uprisings in Borneo late in the war. In contrast, the Coastwatcher service, which operated in Papua New Guinea and the Solomon Islands and generally confined itself to intelligence gathering, had a much greater success rate.[71]

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[69] Peter Dennis, Jeffrey Grey, Ewan Morris and Robin Prior, *op. cit.*, pp. 585–8.

[70] David W. Hogan Jr, *US Army Special Operations in World War II*, Center for Military History, Washington DC, 1992, pp. 49–58.

[71] Peter Dennis, Jeffrey Grey, Ewan Morris and Robin Prior, *op. cit.*, pp. 154–5; 562.

Low-intensity conflict offers more scope for the involvement of armed forces, as opposed to paramilitary intelligence organisations. Formed units are able to maintain a presence in the population without reliance on clandestine methods. The distinction between enemy controlled and friendly controlled areas is often only a matter of degree. This was certainly the case in the Vietnam War. The North Vietnamese army was actively supporting the guerrilla campaign with formed units, individual cadres and logistics. Amongst the Montagnard hill tribes, opposing forces were organised and supported by the US Special Forces, the Central Intelligence Agency, and elements of the Australian Army Training Team Vietnam.[72]

Covert Action

More so than guerrilla warfare, covert action has been the preserve of intelligence and similar organisations rather than armed forces. Their activities include assassinations, kidnappings, sabotage, and sponsored coups. They can also include the raising of paramilitary forces and the conduct of propaganda campaigns—activities dealt with under different headings in this paper. If these activities share a common characteristic, it is their clandestine nature, which allows the perpetrating government to deny responsibility.[73]

Often many covert operations lie in the grey area between myth and reality, while at the same time many successes are still cloaked in secrecy. In wartime, it is often difficult to separate covert action from guerrilla warfare and other military actions. One such example is the 1942 assassination in Prague of Reinhard Heydrich, head of the *Sicherheitsdienst* (German Security Service), by members of the Czechoslovak forces parachuted in from Britain.

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[72] Ian McNeill, *The Team: Australian Army Advisers in Vietnam 1962–72*, Australian War Memorial, Canberra, 1984, pp. 34–67.

[73] Roy Godson, *Dirty Tricks or Trump Cards: US Covert Action and Counterintelligence*, Brassey's, Washington, 1995; Bruce D. Berkowitz and Allan E. Goodman, 'The Logic of Covert Action', *The National Interest*, No. 51, Spring 1998, pp. 38–46.

The Cold War was marked by the clandestine conflict between the United States and the Soviet Union. While much of this conflict remains unconfirmed, a great deal is now on the public record. The perceived excesses of the US Central Intelligence Agency (CIA) led, in the 1970s, to the curtailment of its freedom to engage in such activities. CIA covert operations require presidential approval, are overseen by congressional committees and assassination is explicitly prohibited.[74]

While Australia mirrored the British clandestine structures in World War II, the circumstances in the Pacific theatre did not favour covert action. After the war, some Australian intelligence agencies maintained such skills at a very basic level. In 1982, the Australian Secret Intelligence Service (ASIS) was directed to raise a covert action capability.[75] After a training exercise led to civilians being threatened and property damaged in a public incident, the Government had second thoughts. The Prime Minister agreed to a Royal Commission recommendation 'to exclude ASIS from carrying out covert action in the form of either special operations or special political action . . . and that ASIS's stocks of weapons, including explosives, be disposed of'.[76]

Information Warfare

The methods of attack also embrace a range of usually non-lethal methods designed to affect directly the enemy's will or command infrastructure; specifically, forms of PSYOPS and EW (including electronic attacks on computers and their communications—what is increasingly called 'cyberwarfare'). In current parlance, PSYOPS, EW and cyberwarfare—together with intelligence, counterintelligence and conventional operations against C^3I infrastructure—are commonly referred to collectively as information warfare (IW).

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[74] Central Intelligence Agency, *Factbook on Intelligence*, 1997. [http://www.odci.gov/cia/publications/facttell/questions.htm]

[75] Royal Commission on Australia's Security and Intelligence Agencies (Justice R.M. Hope), *Report on the Sheraton Hotel Incident*, AGPS, Canberra, 1984, pp. 16–7.

[76] Hon. R. J. L. Hawke, MP, *House of Representatives Hansard*, 22 May 1985, pp. 2885–6.

The components of IW exist in both offensive and defensive forms, and at the strategic to the tactical levels. While cyberwarfare gives IW a sense of novelty, other components and most of the principles of IW are as old as warfare itself. Writing circa 500BC, the Chinese author Sun Tzu advocated intelligence, deception and surprise as the essential elements of warfare.[77] The various components are linked by dealing with a common issue: information. There is considerable debate at present about the nature of IW, with some commentators envisaging an 'infosphere' as a separate environment from land, sea and air. The struggle in this environment would be for 'information dominance', analogous to 'command of the sea' or 'air superiority'.[78] Others see IW as superficially attractive, but too amorphous and too difficult to analyse.[79]

Strategic PSYOPS have been used for some time, normally under the control of a dedicated information or propaganda service. Much propaganda was directed at the state's own population, but some was offensive. For example, during World War II the British sabotage and black (that is, unattributed) propaganda organisations were briefly concentrated in SOE, before the Political Warfare Executive was established to assume the propaganda role.[80] Information was spread by radio and aerial leaflets. Other nations maintained similar agencies. Australia's World War II propaganda organisations included the Political Warfare Division in the Department of External Relations and

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[77] Sun Tzu, *The Art of War*, trans. by Samuel B. Griffith, Oxford University Press, Oxford, 1971.

[78] For example, Major-General Kenneth Minihan (USAF) cited in Colonel James W. McLendon (USAF), 'Information Warfare: Impacts and Concerns', in Barry R. Schneider and Lawrence E. Grinter, *Battlefield of the Future: 21st Century Warfare Issues*, Air War College Studies in National Security No. 3, Air University Press, 1995, ch. 7. [http://www.cdsar.af.mil/battle/chp7.html]

[79] Glenn Buchan, *Information War and the Air Force: Wave of the Future? Current Fad?*, RAND Corporation, Santa Monica CA, March 1996. [http://www.rand.org/publications/IP/IP149/]

[80] Philip M. Taylor, *Munitions of the Mind: War propaganda from the ancient world to the nuclear age*, Patrick Stephens, Wellingborough, 1990, pp. 200–1.

the Far Eastern Liaison Office (FELO), the former responsible for strategic-level and the latter for operational-level PSYOPS.[81]

Propaganda played an important role in the Cold War era. Armies became involved in the 'hearts and minds' campaigns that characterised much low-intensity conflict, while organisations such as Radio Free Europe and Voice of America broadcast to the heart of Communist territory. More subtly, the Soviet Union made greater use of front organisations and Communist sympathisers in existing political structures, trade unions and other organisations.

Offensive EW has existed since the American Civil War, where telegraph lines were sabotaged. With radio, jamming and intrusion became means of attack. However, the range of radios and the power needed meant that jamming was not an effective strategic weapon. Similarly, strategic circuits were not easily subject to intrusion. Strategic EW thus became largely an intelligence-gathering exercise, controlled by intelligence agencies.

Greater reliance on computers for storing information and the interconnectivity provided by public communications networks have increased the means and potential effects of intrusion, and have led to the possibility of new modes of attack. Thus, there is much speculation on what can be achieved by cyberwarfare—that is, attacks on computer systems and data by hackers, viruses and Trojans—and directed energy weapons that can destroy computers and computer data at a distance. To date, there are many claims as to what can be done, and some impressive examples of fraud, but the viability of cyberwarfare as a significant method of war is still unproven.

Clearly, armies will need to maintain expertise in the conduct of information warfare on their own battlefields, much as they always have. Equally, navies and air forces need to be able to conduct information warfare in their own environments. It can be argued that armies are the preferred agency for controlling strategic IW because of their better understanding of the PSYOPS and counterintelligence dimensions. On

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[81] Alan Powell, *War by Stealth: Australians and the Allied Intelligence Bureau 1942–45*, Melbourne University Press, Melbourne, 1996, pp. 76ff.

the other hand, some air force thinkers argue that their Service has a better background for strategic IW.[82] In reality, no Service can claim a monopoly on strategic IW. Civilian or joint agencies are the most likely bodies to have responsibility for this form of warfare.

Objectives of Strike

In surveying the various uses claimed for conventional, strategic strike—particularly in past Australian strategic guidance documents—a number of objectives or purposes become evident. This paper identifies seven possible objectives of Strike, ranging from the strategic to the operational:

- deterrence
- conflict termination
- attrition
- escalation control
- regaining initiative and compelling defensive measures
- neutralisation of forces and infrastructure
- interdicting approaches

Deterrence. Strike is often seen as having a deterrent effect in that adversaries are reluctant to embark on conflict for fear that Strike will be used against them. Likewise, the fear of Strike can be used to dissuade a state from embarking on some other undesirable policy course (such as acquiring weapons of mass destruction). To be effective as a deterrent, Strike needs to be credible. It needs to be clear to everyone that the forces available can achieve the effects desired and that the Australian Government has the will to use them.

Conflict termination. The concept of conflict termination matches most closely the doctrinal definitions of Strike. It involves using Strike to reduce fundamentally the adversary's national power, to the extent that

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[82] Richard Szafranski, 'Things May Play Out Differently—The Infospheric Defence Force', in *Testing the Limits: The Proceedings of a Conference Held by the Royal Australian Air Force in Canberra*, ed. Shaun Clarke, Air Power Studies Centre, Canberra, March 1998, pp. 134–8.

the adversary will be at the mercy of the state employing Strike. The US definition of 'strategic air warfare' captures this thought:

> Air combat and supporting operations designed to effect, through the systematic application of force to a selected series of vital targets, the progressive destruction and disintegration of the enemy's war-making capacity to a point where the enemy no longer retains the ability or the will to wage war. Vital targets may include key manufacturing systems, sources of raw material, critical material, stockpiles, power systems, transportation systems, communication facilities, concentration of uncommitted elements of enemy armed forces, key agricultural areas, and other such target systems.[83]

Attrition. A more modest objective is simply to add to the cost of war or an undesirable policy course. This does not see Strike as being able, by itself, to incapacitate an adversary. Instead, it aims at a cumulative effect, working on the basis that, in combination with the effects of other operations and successful defensive measures, the adversary would be prepared to abandon its aims. Attrition may be manifested in a reduction of the enemy's physical assets, economic resources, skilled personnel, psychological will or some combination of these.

Escalation control. Once the conflict has started, Strike may still offer a deterrent capability, compelling the adversary to show restraint in conduct or in escalating the level of conflict. Like deterrence itself, Strike needs to be credible to achieve this outcome.

Regaining initiative and compelling defensive measures. Offensive operations deep into an adversary's rear areas can change the character of the conflict. They can compel an adversary to accept costly defensive measures and can divert forces that would have been used on other operations. To be effective, the opportunity cost of not countering Strike has to be high.

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[83] Joint Publication 1–02, *DOD Dictionary of Military and Associated Terms.* [http://www.dtic.mil/doctrine/jel/doddict/]

Neutralisation of forces and infrastructure. Strike can be used to destroy or neutralise assets to prevent them from being employed effectively. Targets can include the forces themselves, their operating bases and their support infrastructure.

Interdicting approaches. In the most clearly operational-level objective, Strike assets can be used to interdict approaches. This can be achieved anywhere between the adversary's bases and their targets.

Arguably, the first couple of roles are clearly strategic in nature while the last couple are operational-level. In between these extremes, the position is more blurred.

Strike as a Process

The nature of Strike is such that the focus of attention is usually on the actual delivery of munitions on a target. This is usually the briefest, and not necessarily the most challenging, phase of the operation. A generic model of Strike would consist of the following phases (some concurrent):

Figure 1: The Generic Strike Process
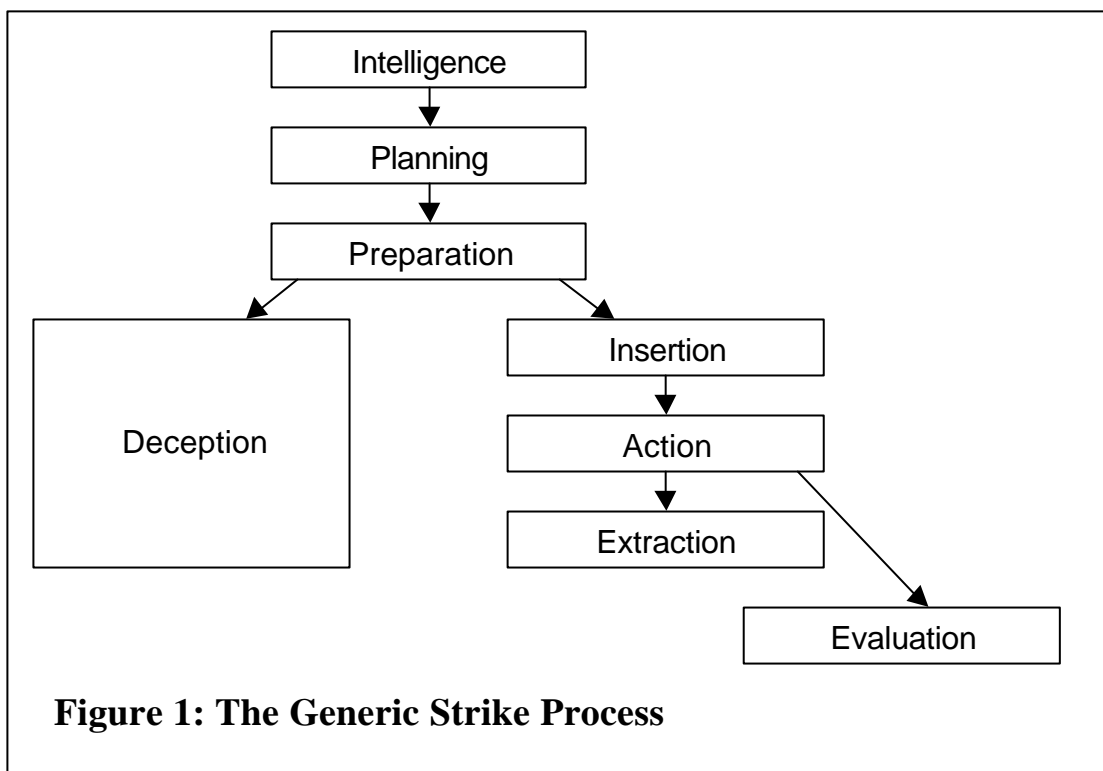
- Intelligence (including counterintelligence)

- Planning
- Preparation (what in Army jargon is sometimes called 'battle procedure')
- Deception
- Insertion
- Action
- Extraction (including search and rescue)
- Evaluation (including bomb damage assessment [BDA])

The significance of the model here is that the forces contributing to each phase might be quite different. For example, the 'action' may be achieved by the Army, insertion by the Air Force, extraction by the Navy, intelligence by a civilian agency, and so forth. In practice, many of the phases will be joint, with only the action phase being the most likely to be purely single Service.

Three aspects of the process deserve more detailed consideration. The first involves the planning and intelligence phases, where the most desirable targets for attack are selected, a procedure known as targeting. The second aspect is the means of reaching the target and recovering the forces—the insertion and extraction phases. The third aspect relates to the actual method of attack in the action phase.

Targeting

An important issue in Strike is the way in which a set of targets to attack is derived from whichever of the seven objectives that the attacking forces are pursuing—the process of targeting. Targeting becomes all-important because it dictates what is feasible. There are three basic approaches: the Clausewitzian centre of gravity, John

Targets can come in any number of forms, including:

- military units;
- facilities and infrastructure (military and civilian);
- stores (e.g. ammunition, fuel and spares);
- communications and transport;
- services (e.g. electricity and water);
- information;
- key individuals;
- the civilian population; and
- national will.

Warden's five rings, and a systems approach. Only the last is appropriate as anything but an abstraction. Yet, the systems approach must work with limited information, and may not always identify targets as neatly as might be hoped. Further, it may prove that there is no target system vulnerable to the available forces.

The targets are not necessarily distinct. For instance, it might be possible to weaken a military unit by denying it a particular spare part which, in turn, is achieved by attacking the factories where the parts were made. An (unsuccessful) example of this was the USAAF target selection in 1943, where the USAAF attacked manufacturing plants in Schweinfurt to cripple the *Luftwaffe* by denying it ball bearings.[84]
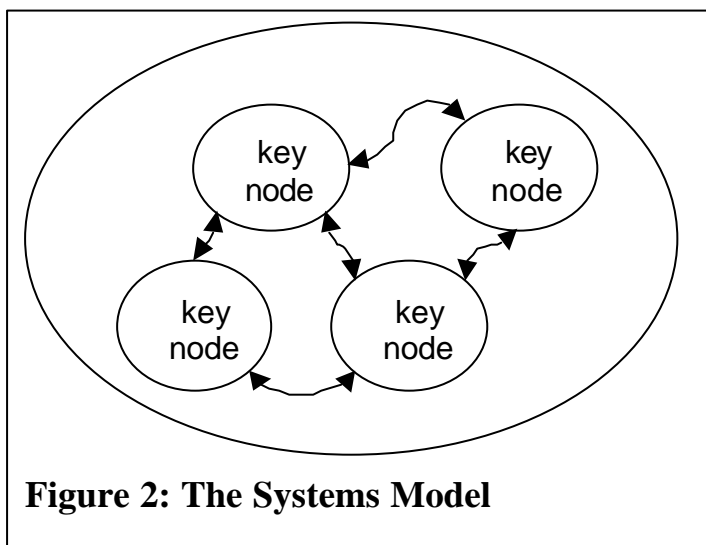
Figure 2: The Systems Model

Nations can be studied as a system, with a vast number of interacting parts. Economic models draw connections between producers and consumers in the various sectors of the economy. With a sufficiently detailed model, it is possible to determine which aspects of the enemy economy give the wherewithal to support its military forces.

Significantly, economists distinguish between goods that are complements and those that are substitutes. For example, attacking both Axis fuel production and railways in 1944 allowed the effects of bombing to be magnified because otherwise road could substitute for rail or vice versa. In contrast, attempting to attack both ball bearing plants and aircraft assembly plants risked division of effort.

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[84] Martin Middlebrook, *The Schwienfurt-Regensburg Mission: American Raids on 17 August 1943*, Allen Lane, London, 1983; Thomas M. Coffey, *Decision over Schweinfurt: The US 8th Air Force Battle for Daylight Bombing*, David McKay, New York, 1977.

Models also need to take into account, *inter alia*, stock levels. For instance, it was the German stocks of ball bearings (as well as lower-than-expected usage rates) that allowed the Germans to absorb the air attacks while they obtained alternative sources of supply.

In theory, models can be more complex still, embracing not only economic but political considerations. However, a highly detailed model with the relationships fully exposed is an ideal rather than a reality. In peacetime, it is difficult enough to identify these components in one's own economy. Thus, the wartime model must involve some degree of abstraction.

A model, even if not formally described as such, allows the attacker to identify the adversary's sources of strength and vulnerabilities, and hence the ways in which the enemy as a system might be attacked most efficiently. Clearly some aspects of the enemy system could be attacked without resort to Strike; some would involve a major offensive (or invasion); but others might be vulnerable to relatively small, potent forces operating at long range.

The attacker needs to keep in mind the desired effect on the enemy system. It may be to cripple the enemy as a power, but in limited conflict it may be some more modest aim. Whatever the aim, an analysis of the system will lead to the best set of target options.

Problems with the 'Centre of Gravity' approach. Military doctrine contains a pointer to this approach, with the concept of a 'centre of gravity' as the source of an enemy's power; this can be dangerously misleading, however.[85] The concept of a centre of gravity finds its origins in the writings of Carl von Clausewitz. This great Prussian military theorist had the misfortune of dying before the completion of *On War*;[86] it is therefore possible to find contradictions between the different parts of this work as they were revised at different times. His

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[85] For a more detailed discussion of this issue, see Martin Dunn, 'Clausewitz, Centres of Gravity and Systems', *Research and Analysis: Newsletter of the Directorate of Army Research and Analysis*, No. 8, July 1996.

[86] Carl von Clausewitz, *op. cit.*

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Figure 3: The Centre of Gravity Model
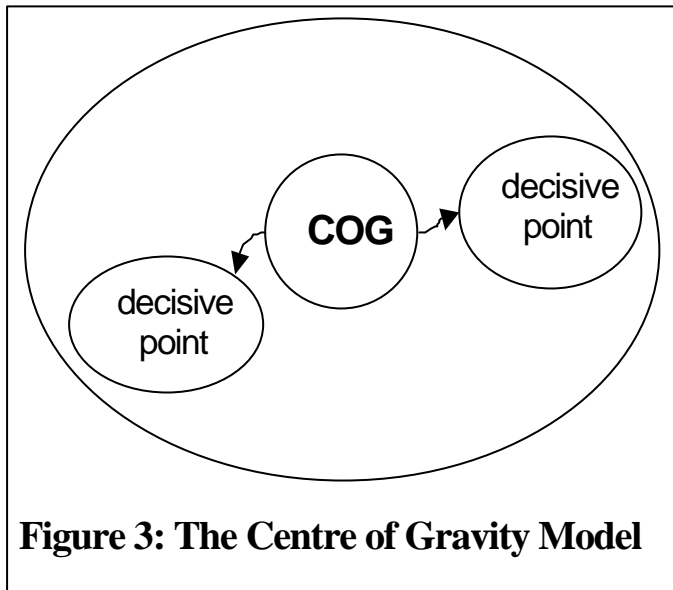
description of centres of gravity contains contradictions, and it is unclear what exactly he had in mind.

The doctrinal interpretation is to identify a single centre of gravity for each level of command. The commander's object then becomes to disable the centre of gravity, either directly or indirectly, by way of decisive points—uneasily blending Clausewitz's concepts with those of Antoine Henri de Jomini, his contemporary rival.[87] The focus on the centre of gravity as the object was appropriate to Clausewitz, who identified it with the main body of the enemy army in most cases. It also frequently fulfils the needs of the tactical-level commander.

At the national level, however, the picture is far more complex. National strength is a combination of the armed forces, popular will, the economy and leadership. A belligerent might attack some or all of these. The physical analogy leads to the pursuit of a single centre of gravity, when in a complex system several or many components might actually be valuable. The search for a single source of power becomes a nugatory pursuit—like arguing whether the brain or the heart is more vital to human survival.

Further, the physical analogy can lead to the conclusion that the priority for attacking particular parts of the enemy system can exist in isolation—like the centre of gravity, it is a property of the body. Yet, from practice it should be clear that the point to attack is a function of the attacker's capacity to exploit enemy vulnerabilities: the attacking forces, their disposition and the geography.

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[87] Antoine Henri de Jomini, *The Art of War*, Greenhill Books, London, 1992.

The nature of the war and the objectives of the belligerents can have implications for the validity of attacking particular targets. In total war, it may be appropriate to disable the adversary by attacking a 'centre of gravity'. In limited conflict, however, the aims may be more modest and attacks on important but non-crippling targets may prove more appropriate. The Clausewitzian prescription to use all effort against a centre of gravity is not appropriate to all levels of conflict.

In the early nineteenth century, however, the centre of gravity was a radical and new concept. It led military planners to realise that their aim was often to disable an enemy capability and that they needed to look for the most effective way to do that.

Problems with John Warden's 'Five Rings' Approach. A more sophisticated approach is taken by Warden who describes the enemy as a system, depicted pictorially by a series of five concentric rings.[88]
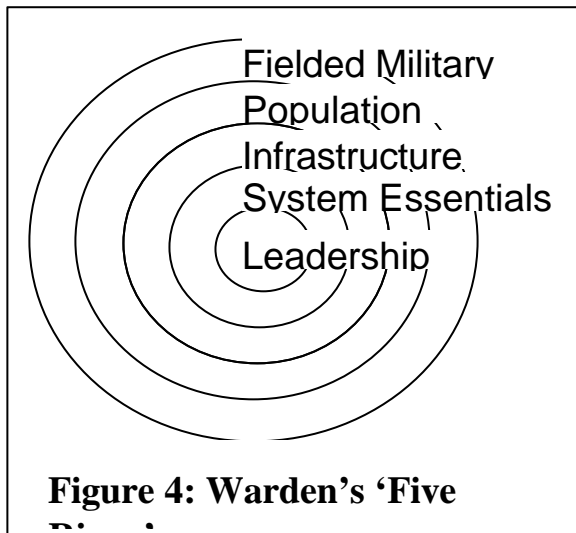
Figure 4: Warden's 'Five Rings'

The innermost ring is 'leadership', and progressing outwards are 'system essentials' (for example, electricity, oil, food and money), 'infrastructure' (roads, airfields, factories), 'population' and finally 'fielded military'. In Warden's description, the closer the ring is to the core, the more vital it is, while the elements represented by the outermost rings are sustained by those inside them. From this, he reaches the conclusion that it is better to attack the enemy leadership than the armed forces. Warden's highly simplified generic model thus asserts that there is a leadership 'centre of gravity' without looking at the specific structure of the enemy, or whether their leadership is vital or vulnerable.

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[88] John Warden, *Planning to Win*, Paper No. 66, Air Power Studies Centre, Canberra, 1998, pp. 15ff; Colonel John A. Warden III, USAF, 'Air Theory for the Twenty-first Century', in Barry R. Schneider and Lawrence E. Grinter, *Battlefield of the Future: 21st Century Warfare Issues*, Air War College Studies in National Security No. 3, Air University Press, 1995, ch. 4. [http:///www.cdsar.af.mil/battle/chp4.html].

To this extent, it is little better than Douhet's assertion that it was best to attack enemy cities (his centre of gravity).

Political and Legal Issues and Constraints. Legal and political considerations can restrict the range of targets that can be subject to Strike. Australia has tended to accept international treaties restricting its capacity to conduct war, more so than its major allies (for example, the 1977 Additional Protocols to the Geneva Convention and the Anti-personnel Mine Convention have not been signed by the United States). Some of the major restrictions are outlined in the box below:

Political constraints on the use of Strike extend beyond the strictly legal. Willingness to use Strike as a weapon embraces a range of factors that relate to the political culture of the State: the extent to which it feels threatened, its sensitivity to international criticism, its perceptions of itself as a major power and so forth. Thus it can be argued that the United States or Israel would be more likely to use

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Constraints on Strike in International Law

- Restrictions on targets:

    ◊ civilians and civilian objects;
    ◊ medical facilities and units;
    ◊ the environment;
    ◊ facilities containing dangerous forces, e.g. dams and nuclear reactors;
    ◊ cultural objects; and
    ◊ neutral shipping.

- Restrictions on weapons and means of war:

    ◊ weapons of mass destruction;
    ◊ anti-personnel land mines;
    ◊ untethered floating sea-mines; and
    ◊ blinding laser weapons.

Strike than, say, Australia. Consequently, their capabilities would be seen as more credible and more deterring than Australia's.

Caveats on the Systems Approach. While the systems approach in theory gives the optimal solution for causing an effect on an adversary's capability, it still has weaknesses which prevent it from providing a solution in every circumstance.

Armed forces will always operate with imperfect information. Inevitably any model of the enemy system will be a simplification and contain some assumptions. Inadequate intelligence may give false impressions of the importance of various elements, and can be difficult to appreciate the interactions between the elements properly. The difficulty in developing such a model is seen in the trouble treasury and finance departments around the world have had in predicting movements in their own economies. The ideal model has to go even further than this, embracing political–psychological factors as well as the economic, and these interactions are even less well understood.

The target system may be robust. Even if the model can correctly identify the right target—combining vulnerability and significance—it still may not be easy to attack. Its location, defences and physical attributes may all pose insurmountable obstacles. The difficulty faced by UNOSOM II in Somalia attempting to apprehend Mohammed Farah Aideed is one example. Likewise, national will can prove to be robust, as it was in both Germany and the UK during World War II. It is common for systems to have a reasonable amount of built-in redundancy or resilience.

Enemy counteraction can also prove significant. The systems approach largely assumes a static environment, and does not reveal much about an adversary's plans. While it might be possible at a particular point in time to assess the defences of certain elements, it is not possible to predict the adversary's discretionary activity, such as counterattacks.

Further, some targets take time to affect. While some effects can, at least in theory, be achieved quickly by rapid destruction of selected targets, others cannot. A blockade by maritime mining will take time to run down stocks; a PSYOPS campaign needs time to change attitudes; and some targets may need repeated attacks to prevent them from being repaired or replaced.

Characteristics of Insertion and Extraction

Because strike forces are operating at long distances from their own bases, but close to the adversary's, their security in the insertion and extraction phases is important. Strike forces are often amongst the most expensive assets. They should therefore engage in combat when the

operation is carefully planned and the expected losses are more than outweighed by the likely gains. Six general techniques are used, sometimes in combination, to ensure that strike forces can reach their targets and return intact:

- **Speed.** Speed allows the strike force to achieve its objectives before the adversary's defences have had an opportunity to react.

- **Stealth.** Use of camouflage, emission control (EMCON) and other security measures can permit the strike forces to approach (and possibly depart from) their targets without being detected. Often a stealth approach is a slow one and a balance needs to be struck between this technique and speed. The choice will depend on the characteristics of the forces, for example, submarines will prefer stealth while strike aircraft make best use of speed.

- **Distraction.** The adversary's sensors and defences can be distracted away from the path taken by the strike force. Concurrent operations, feints, multiple incursions and deception techniques can all be used by the attacker.

- **Evasion.** Good intelligence and planning, perhaps combined with distraction measures, may allow the strike force to evade the adversary's defences.

- **Defensive Measures.** If some detection is still likely, the strike forces will often need physical protection. This can involve organic capabilities (for example, fitting AIM-9 to F111s, employing electronic countermeasures (ECM)) or the use of other units (for example, a fighter escort). Defensive measures usually involve some cost, for example, reduced stealth.

- **Stand-off.** Finally, it may be possible to deliver an effect at a distance. The strike force can avoid getting too close to the target in order not to come under unacceptable risk. Indeed, it may not need to deploy at all (as with the extreme case of intercontinental ballistic missile (ICBM) silos). Stand-off may occur in a number of stages: an aircraft carrier approaches to a certain range; a naval attack aircraft

may then get closer to the target until finally a precision-guided munition (PGM) engages the target. In each phase, the force or weapon may be employing any or all of the above five techniques.

While these principles are used with respect to physical attack (strike), they can apply, with some alterations, to unconventional Strike, such as PSYOPS, IW and EW.

Characteristics of Action

The means of categorising actions are by no means clear-cut. Three possible areas of categorisation are the nature of the effect sought, the nature of the target, and the persistence of the effect.

The most dominant image of action is the destruction of some physical target by explosive ordnance. Neutralisation may be all that is required, or alternatively it may be necessary to capture the target. If the target is not physical, such as in the case of morale or national will, then a different range of effects would apply.

The US definition of 'strategic mission' includes the claim that:

> As opposed to tactical operations, strategic operations are designed to have a long-range, rather than immediate, effect on the enemy and its military forces.[89]

It is debateable whether the effects of strategic missions are necessarily long term. An extreme example might be the bombing of Hiroshima and Nagasaki, or more recently *Linebacker II* where the aim was a rapid termination of hostilities.[90] Nevertheless, the point is fairly made: it is usual to expect the effects of an attack to have some persistence. Even with these examples, the enemy could form a reasonable belief that these operations could be continued and even extended, thus resulting in a persistent effect. The perception here is as important as the reality.

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[89] Joint Publication 1–02, *DOD Dictionary of Military and Associated Terms.* [http://www.dtic.mil/doctrine/jel/doddict/]

[90] C.D. Coulthard-Clark, 'The Air War in Vietnam: Re-evaluating Failure', in Alan Stephens (ed), *The War in the Air 1914–1994*, Royal Australian Air Force Air Power Studies Centre, Canberra 1994, p. 175.

Two major approaches can be taken to ensure that the effect is persistent. The first is that the attack itself has long-lasting consequences, which would involve destruction or damage to the target; capture of the target (for example, information, equipment or personnel); denial by use of dangerous devices (for example, mines, boobytraps, runway denial munitions); contamination of the target by nuclear chemical and biological weapons (NBCW); change of attitudes/beliefs in a target audience (PSYOPS); and introduction of viruses, contaminated data and the like into electronic systems (EW and IW).

The second approach would involve targets being regularly reattacked (or threatened) by, *inter alia*, repeat strike missions; forces that remain in the general target area (for example, submarines or special forces (SF)); and credible threats of repeat attacks (if the aim is to compel expenditure on countermeasures or divert activity).

STRIKE AND FORCE STRUCTURING

Force structuring should start from an understanding of a state's strategic circumstances and what the state aims to achieve in conflict. One approach is to start at national aims, then produce a national strategy and finally develop a force structure. This approach offers a very simple, linear model, which is a useful starting point but it can understate the complexity of the process.

In force structuring, many factors influence each other. National aims and strategy cannot exist in isolation, but must for a good part be a statement of what is achievable. Likewise, resources, existing force structure, and even existing doctrine and strategies, have a greater influence than the simple force-structuring model admits.

The same applies to structuring strike forces. Strike fulfils a particular role in the national strategy—there are one or more objectives that Strike might be used to help achieve. The capacity of the defence force to achieve these objectives can be optimised in terms of specific adversary target systems, and force structure options can be identified that will be most effective in attacking those targets. Yet, as in force-structuring in general, the influences of achievability (from the bottom up) can be as

significant as the top-down approach (based on consideration of objectives and strategy).

The Objectives of Strike in Australia—the Need for a Strategy

Australia's recent strategic guidance documents have at various times emphasised different purposes. Table 1 elaborates on this point. This table gives the impression that the place of Strike has changed significantly; however, this is not the case, with two important exceptions. First, the treatment of the likely nature of conflict has changed, and the view that there are distinct levels of conflict with escalation of levels needing to be deterred is now less fashionable. While DOA87 put a great deal of emphasis on three distinct levels of conflict, in later papers these levels gradually merged until the current ASP97, which makes no mention of the levels.

Second, in defining the roles, the use of 'strike assets' against an adversary operating in Australia's maritime approaches is now more likely to be discussed as part of the maritime patrol and response role than under strategic strike. ASP90, which introduced the Defence roles, was ambiguous on this point. It mentioned disruption of the adversary's lines of communication, but did not clarify whether it simply meant internal communications or whether it included the approaches to targets in Australia. Before this time, it was more likely that any discussion of Strike would be under the heading of 'strike and interdiction'.

Table 1: Objectives of the Strike Role as Described in Recent Strategic Guidance

	ADR72	AD76	DOA87	ASP90	SR93	DA94	ASP97
Deterrence	✓	✓			✓	✓	✓
Conflict Termination				?	?		
Attrition				✓	✓		
Escalation Control			✓	✓	✓		
Regaining Initiative and Compelling Defensive Measures				✓	✓	✓	✓
Neutralisation of Forces and Infrastructure				✓	✓	✓	
Interdicting Approaches		✓	✓	?	?		

Sources:
- ADR72 = Department of Defence, *Australian Defence Review*, AGPS, Canberra, March 1972, pp. 24–5.
- AD76 = Commonwealth of Australia, *Australian Defence*, AGPS, Canberra, 1976, p. 18.
- DOA87 = Department of Defence, *The Defence of Australia 1987*, AGPS, Canberra, March 1987, pp. 41–2.
- ASP90 = Commonwealth of Australia, *Australia's Strategic Planning in the 1990s*, AGPS, Canberra, 1989, paras 5.31 – 5.32.
- SR93 = Commonwealth of Australia, *Strategic Review 1993*, Department of Defence, Canberra, December 1993, p. 65.
- DA94 = Commonwealth of Australia, *Defending Australia: Defence White Paper 1994*, AGPS, Canberra, 1994, p. 52.
- ASP97 = Department of Defence, *Australia's Strategic Policy*, Department of Defence, Canberra, 1997, p. 63.

Notwithstanding these exceptions, a more likely explanation of the changing emphasis is a combination of two other factors. First, there are the sensitivities of discussing possible offensive operations against a regional neighbour in a public document, and hence a desire to make the public statements more ambiguous than they would otherwise be. Australia's security policy attempts to follow a delicate balance between, on the one hand, maintaining friendly relations with all nations (particularly Australia's near neighbours) and, on the other, having a potent military capability that could defeat any potential aggressor.

Second, there is relatively low priority given to the development of policy on Strike, hence the confusion that surrounds the aims of the Strike role. To illustrate this point, current strategic guidance only identifies two purposes for Strike: it would compel defensive measures and it would deter hostilities.[91] Yet, both of these objectives require some credible threat to be mounted to make them effective. What is it that strike assets will attack that would compel defensive measures, or even dissuade an adversary from the use of force entirely? ASP97 does not say.

The issue of conflict termination is not well discussed in any strategic guidance document. The operational-level issues involved in defence-in-depth may be addressed in some detail, but these do not extend to the key strategic issues: what are the outcomes Australia would want from a war and how would it get the adversary to accommodate them? Is Australia prepared to destroy an adversary or just force a stalemate, or does it have an aim somewhere between these extremes?

At this point, it would be desirable to draw some conclusions about the objectives that Australia might pursue with Strike, but this is not simple. As discussed above, it is clear that existing strategic guidance does not identify the objectives necessary in a strategy based on Strike. A capacity to do everything offers the greatest flexibility; however, within limited resources, the ADF's efforts could be spread too thin. A capacity to achieve one or two goals might be more effective and better fit into an overall strategy—but the national strategy is unclear.

An alternative approach is to select purposes based on the known limits of existing capacity. On this basis, for example, conflict termination might be rejected as too ambitious. However, this approach is also uncomfortable. It involves 'situating the appreciation'—leaping to a solution and then tailoring the logic to fit. The Australian Defence Organisation does not know whether the objectives are unachievable until it has examined the different force-structuring options and analysed them in some depth. With developments in technology and doctrine, aims that were previously unachievable may become feasible. (For

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[91] Department of Defence, *Australia's Strategic Policy*, Department of Defence, Canberra, 1997, p. 63.

example, the advocates of information warfare claim that very significant effects may be possible for little effort.) While resources are limited, they are not necessarily fixed and, at least in theory, ought to be transferred to an area that offers better returns. While it could be argued that the force structure is essentially static because of long equipment acquisition times and the sunk costs associated with the existing order of battle, this assumption acts contrary to the aim of determining the optimum force mix.

It is beyond the scope of this paper to address these issues, but they will have fundamental implications for the size and nature of strike capabilities that the ADF develops.

Target Selection for Australia, without an Adversary or Strategy

Assessing how Strike might be best employed in a conflict requires a number of strategic-level decisions. It is important to determine the aims of the conflict, in particular, whether Australia wishes to incapacitate an enemy or simply exhaust it. Any limits that are important for political reasons need to be identified. Something less than total devastation may prove a better outcome for building the subsequent peace. With this, some concept of how the broad war aims might be met—a strategic concept—is required.

Such key strategic decisions help determine whether Strike is used as a strategic tool or simply as an operational adjunct to a strategy that emphasises some other activity. The purpose fulfilled by Strike will largely dictate what capabilities are required and on what scale. The nature of the enemy system determines if and where it is vulnerable to attack. In particular, it is necessary to look at the economy, communications systems (for EW), and the political and social environment (for PSYOPS).

The quality of an adversary's defences strongly influences where and when it is feasible to attack. For example, weak naval capabilities may make maritime mining attractive, and poor air defences might facilitate

the use of strike aircraft. Geography[92] dictates what can be reached, the nature of the approaches and the nature of the target areas.

These points are sufficient to raise two fundamental issues. First, Australia needs a strategy that clearly addresses conflict termination; and second, it needs to understand the 'enemy'.

On the first point, as discussed above, Australia's strategic guidance is inadequate. On the second, Australia has resisted identifying a potential enemy. Attacks against Australia would need to be launched from (or through) the nearby areas of South-East Asia or the South-West Pacific. However, all the states in these areas maintain friendly relations with Australia, most cemented by treaty, and none appear likely to give access to a hostile power. Thus, Australia faces the ironic position of developing a defence strategy against its friends, or at least against their territory and infrastructure. In theory, this should be no different for the defensive roles, although Strike has the implication that it might be employed pre-emptively.

Whether Australia really needs to develop capabilities to employ Strike against all nearby states is an important issue as each presents a very different problem. The states in the region range from the industrialised (for example, Singapore and Taiwan) to somewhere much of the population lives from subsistence agriculture and fishing. Just as the economies vary significantly, so do their armed forces. Some have modern forces of all three Services, some have large but ageing forces, while others have at most light infantry or paramilitary forces, non-combat aircraft and patrol vessels. The countries all share some features: all are tropical, all are becoming increasingly urbanised (but at different rates) and all are coastal. However, this is about where it stops. There is a city–state on an island, several archipelagos, and states on the Asian mainland. They vary from the totally urbanised Singapore to the mostly rural Papua New Guinea.

Table 2 shows the range of imate.

Table 2: Some Characteristics of Three Regional States		
PNG	Singapore	China
Medium	Very Small	Very Large
Primary industries	Industrialised	Mixed
Close	Close	Distant
Forested, rural	Urban	Mixed
Weak military	Advanced	Large with

characteristics that can be generated by three selected states within the region. These examples illustrate the range of circumstances that are implicit in a capacity to deal with every potential conflict within the region. Each of these states presents quite different problems for a Strike campaign.

It is beyond the scope of this paper to attempt to analyse the economies, physical infrastructure and societies of all these states, to identify strike targets, and to prioritise between different strike forces that are all suitable for combating different foes—all in the context of a non-existent strategy and a region where no particular adversary is likely to appear.

Only a few conclusions can be drawn in the case of Australia's circumstances. The most obvious is the high premium that should be placed on flexibility. A more flexible force can better cope with an environment in which particular threats are unclear, where the strategy for pursuing any conflict has not been determined, or where the strategic circumstances are capable of changing rapidly (as seen in the Asia-Pacific during 1997–98 with the collapse of many regional economies, the proliferation of nuclear weapons in South Asia, and a sudden change in government in Indonesia).

A second conclusion is that a Strike capability needs to be credible. Most of the aims of Strike demand a critical mass of capability to be effective, or seen to be effective. Token strike forces are unlikely to deter, or be able to contribute in a significant way, to the conflict. Exactly how much is needed to be credible has to be the subject of a separate analysis. The alternative of no Strike capability raises the problem of how the conflict might be terminated favourably.

Related to credibility is preparedness. Particularly in fulfilling the deterrence role, strike forces can be more effective if they are capable of responding rapidly to any hostile move.

Relevant Attributes of Strike Force Options

In assessing the optimal strike force to deal with a particular target, the following issues need to be considered:

- **Reach.** Can the force reach the target? Some forces can have their reach extended by adding elements and capabilities such as air-to-air refuelling and drop tanks—but usually with some cost elsewhere.

- **Effect.** What effect can the force achieve on the target and with what degree of certainty? Options include destroying the target or neutralising it, and sometimes capturing it. The persistence of the effect might range from hours to permanent.

- **Risk.** What are the risks faced by the force in overcoming the adversary's counter-measures? These need to be assessed in terms of both risk to the assets and to personnel. It might be possible to reduce the risk by improving defensive countermeasures, providing escorting forces, reducing signatures, employing stand-off weapons, and utilising deception and better planning; however, these could have implications for timings, cost and other factors.

- **Cost.** What is the cost of the capability? Sometimes the capability also requires specific resources that cannot be easily obtained, for example, facilities, maintenance personnel or training areas. The method of assessing the full or 'through life' cost is important. It should include the capital costs, operating costs, weapon stocks, and all support costs (for example, targeting data and training).

- **Data collection.** What surveillance capabilities does the force have? It might be desirable if the force can generate incidental intelligence, self-acquire targets or assess the effects of its own operations.

- **Persistence.** How long does the effect on the target need to be sustained? The force might need to produce a lasting effect on the target, loiter in the target area, or quickly launch repeat sorties.

- **Signals and Footprints.** Does the presence of the force produce incidental effects in the political and psychological domains? The force might be able to demonstrate intent and seriousness, provoke fear and terror, or it might be seen as an over-reaction.

For a static, passive and well-defined system it should be possible to identify the optimum target set, and thus derive a force mix that can overcome attrition to attack all the targets within the desired time. In practice, it would be unusual to have all these factors so neatly defined and favourable. Instead, a more flexible force would be preferable—one that is larger, includes more platform types and/or can have a greater range of effects on targets. What on the surface is suboptimal can have positive effects in other areas, for example, by providing the flexibility to change the target mix to reflect improved intelligence as a consequence of the initial round of attacks; a better capacity to deal with attrition and enemy counteractions; and greater ambiguity as to intent, thus compelling wider dispersion of the enemy's forces and cost in acquiring defences against a range of attacking forces with different capabilities.

Strike Force Options

Various options exist for forming strike forces. The principal ones are listed in Table 3. It is tempting to assess the merits of each option, but this is by no means as easy as it might appear. For example, knowing that an F111 can destroy a single target does not reveal whether two saboteurs or a whole division of land forces could achieve the same effect. The nature and location of the target, together with the nature of the defences provided, could all have marked effects on the viability of different options.

Table 3: Strike Force Options		
Force Element(s)	**Targets**	**Comments**
Ballistic and cruise missiles	military units, physical infrastructure	This element is characterised by extreme stand-off, minimum risk to own personnel, and little capacity to self-assess damage achieved.
Strike aircraft	military units, physical infrastructure	
Naval surface units	military units, physical infrastructure, maritime targets	Naval gunfire support (NGS) is restricted to the littorals.
Submarines and maritime mining	naval units, merchant shipping	Antisubmarine warfare (ASW) and mine countermeasures (MCM) are costly and complex; blockade usually takes time to be effective, but forces can be persistent.
Land forces (SF and raids by conventional forces)	military units, physical infrastructure, specific personnel	This element can capture as well as destroy or damage. Extraction can be problematic.
EW/IW	information, telecommunications, C^3I systems, general computer infrastructure	There has been much recent speculation on the merits of 'cyberwarfare', but it still remains largely unproven as a means of conducting war.
PSYOPS	will and intent of nation, groups and individuals	This element takes time to be effective.

Table 3: Strike Force Options		
Force Element(s)	**Targets**	**Comments**
Insurgency (special warfare)	military units; physical infrastructure; will and intent of nation, groups and individuals	This element takes time to be effective.
Covert action (e.g. terrorism and assassination)	Leadership; physical infrastructure; will and intent of nation, groups and individuals	Legality and political implications need particular attention for this option.

Land Forces as a Strike Option

The experience of using land forces in a Strike role provides some enduring lessons for the future. In many ways, these lessons strengthen the case for maintaining Australia's capacity to conduct Strike with land forces.

Land forces, particularly special forces, can be highly flexible. They can readily adapt to new environments and roles. Thus the forces in World War II that conducted vehicle-mounted raids in North Africa were later employed in an amphibious role in the Aegean or parachuted into France. Likewise, special forces have shown that they can contribute at every level of conflict. Special forces found roles in both the low-intensity conflicts, such as those that marked South-East Asia from the 1950s to the 1970s, and the high-intensity environments of World War II and the 1991 Gulf War. For Australia, where there remains a high degree of uncertainty as to where force will next need to be applied, this flexibility is a particularly useful facet.

Land force Strike has the potential to create a major impact, often disproportionate to the effort applied. Away from the major centres of activity, targets may have little or no protection and the covertly infiltrated team can do great damage. Raids on targets where an element of surprise is likely are often accomplished with modest forces. Similarly, support to irregular forces often only requires very small groups.

Land Strike assets offer capabilities that cannot be easily duplicated by other means. The most obvious unique capability is the ability to capture and/or recover. Prisoners, hostages, particular items of technology and the like can only be taken by a land force raid, guerrilla forces or covert action. Often the targets of raids are those that cannot be easily destroyed or neutralised by other means because of the active and passive defences, range or geography. Land forces have the capabilities to exploit vulnerabilities in the target that other assets are unable to. Further, even where other assets can be employed, cooperation with land forces to designate targets can be a valuable force multiplier. Likewise, only armies and paramilitary covert organisations are able to provide training, advice and direction to guerrilla forces.

In the Asia-Pacific region, special forces have already proven their value. Long coastlines throughout most of the region facilitate amphibious insertion. Infrastructure is often poor, hampering effective government responses. There are many areas where government control is incomplete and where populations might support guerrilla forces should favourable political circumstances exist. The region contains many isolated and wooded areas where special forces might lie up in preparation for an attack. Targets may lie in wooded areas or the rapidly growing urban centres where other strike forces have great difficulty finding, identifying and attacking targets—and minimising collateral damage. In contrast, land force Strike may not be so constrained.

Further, effective special forces can generate their own mythology. Popular literature and media pay far more attention to special forces than any other element of defence forces. In the minds of many, including important decision-makers, it is the capabilities of special forces that are the indicator of the capability of the defence force as a whole. Effective special forces capable of successful strike missions can magnify the apparent strength of a defence force, enhancing its deterrent value. Examples include the successful Israeli operation at Entebbe or the British SAS operation to end the Iranian embassy siege.

Finally, there is a large range of options for unconventional Strike— PSYOPS, information warfare, guerrilla warfare and covert action—to

which Defence has at best paid cursory attention. Many of these are likely to involve significant Army participation.

Special Forces as a Strike Option—A Digression

Just as the first thought that Strike invokes is often bomber aircraft, the second is usually special forces. For the Army, the conduct of Strike—and raiding in particular—need not be confined to special forces.

It is possible to be caught in the idea that there is a black and white distinction between special forces and other army units, while the reality is more appropriately described as a spectrum. Special forces are made 'special' by their selection, training and often their equipment. Two issues in particular emphasise this point.

The first issue is that some units exist in a grey area between special forces and ordinary infantry. Many countries have specialised units designed to operate in particular environments: airborne, marine, airmobile and mountain. Some units have the benefit of first choice of recruits and equipment (for example, some 'guards' units). Thus, there may be units that share special force features such as training in specialised insertion techniques. For example, Australia has the parachute-capable 3RAR, the air-transportable, high-readiness 3 Brigade and Navy's clearance diving teams.

The other issue is that quality—and hence what gains the label 'special' or 'elite'—varies with nation, time and circumstances. Australian infantry are very well trained, and can be equated with the special forces of some other nations. In addition, it is possible to draw distinctions between peacetime armies and those mobilised for war. In war, the exigencies of the situation often demand that shortcuts be taken with training and recruiting policies. Thus, a wartime army might assign the label 'special' to units bearing little resemblance to regular, professional equivalents.

While raiding is often amongst the roles of SF units, other issues might predominate. Some typical roles of elite units, including special forces, are:

- reconnaissance and intelligence gathering—a capacity to operate covertly behind enemy lines, establish observation posts or penetrate sensitive areas and report the results;

- support to guerrillas and local forces—a capacity to raise and train guerrillas and local forces either behind enemy lines or in areas where friendly control is not well established (for example, amongst the hill tribes in Indochina during the Vietnam War);

- coup de main and shock troops—a capacity to seize and hold temporarily a point entry, a choke point on the line of advance (for example, a bridge or defile) or to secure a breach through a defended zone;

- pathfinding—a capacity to establish safe routes for the insertion of a larger force; and

- counter-terrorism and special recovery—recovery of hostages, captured and otherwise endangered personnel and assets.

These roles each demand different skills, and it is typically the case that special forces concentrate further in only a few of these roles and in subsets of particular roles. Australia offers an example of this, following the British pattern. The Special Air Service Regiment (SASR) focuses on those things best done by small teams usually acting covertly, such as intelligence gathering. Meanwhile, the Commando units practice for operations in larger groupings.

Figure 5 provides a hypothetical example of relative force suitability. This may represent a raid to be conducted some time in the future. In this particular case, 1 Commando Regiment was selected as the preferred Australian special force. For other operations, the SASR or 4RAR(Cdo) may be the most appropriate. No one correct answer exists, as the situation, mission and available forces are never identical.
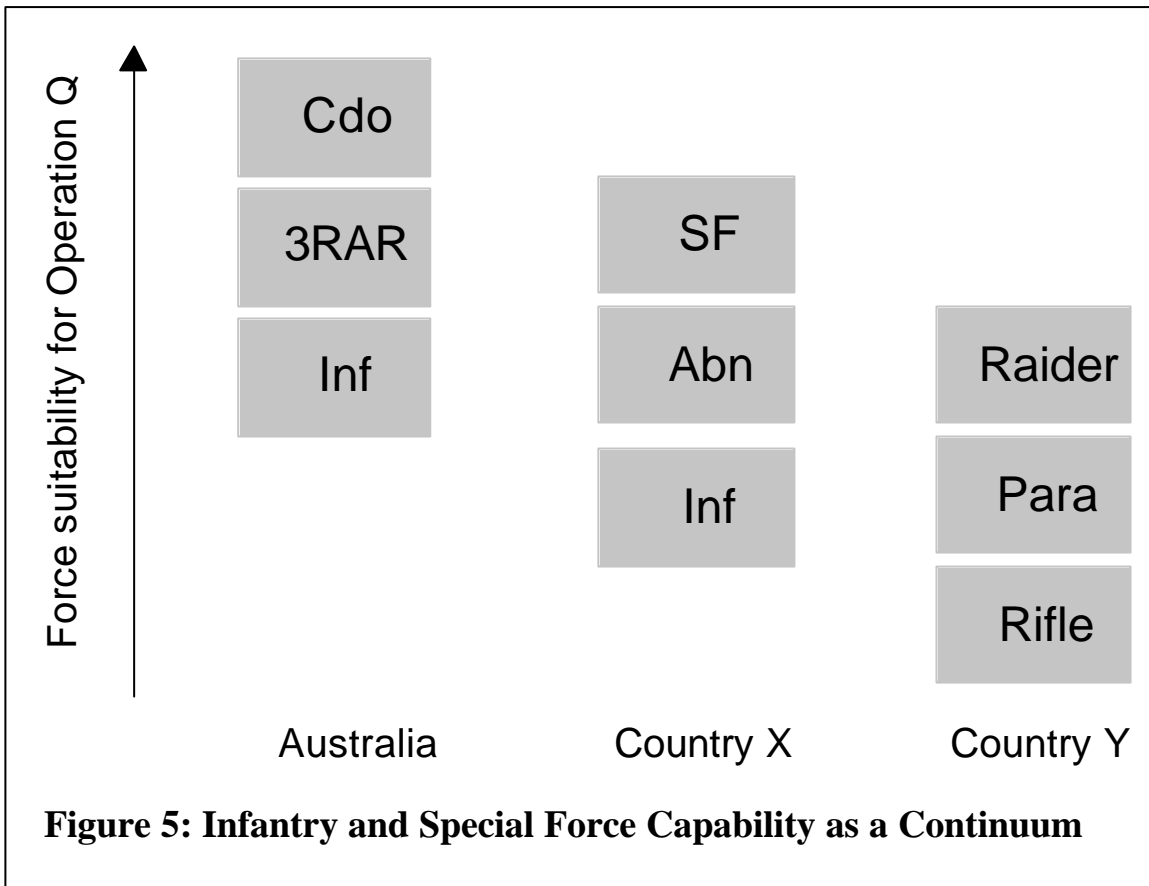
Figure 5: Infantry and Special Force Capability as a Continuum

In practice, the highly optimised nature of special forces, with significant resources expended in developing them, makes them rare and valuable. They are usually marshalled at the highest level, kept in reserve and employed only where their unique skills can achieve the best results. Many raids can involve a significant risk of high casualties. Thus, for some raids, special forces might be too valuable for the task at hand, or the scale of the operation might be so large that there are insufficient special forces available.

Force Structuring for ADF Strike

Force structure for Strike logically involves several steps: determining the objectives of Strike, and then estimating the effect of each force mix on the various target sets. This process, however, cannot be easily followed for the ADF. Little is known about the nature of Australia's future involvement in warfare.

If Strike is about fulfilling a strategic purpose, then more information is needed on Australia's strategy to draw useful conclusions. What are Australia's aims in conflict? What mechanisms will the ADF pursue to

achieve those objectives? How will conflict termination be achieved? Which of the Strike objectives would the ADF be pursuing, and to what extent? To date, Australia's discussion of strategy has at best been in general terms. Once the place of Strike in Australia's strategy has been set, force planners can start identifying target systems that would need to be attacked and possible force structure options to achieve the desired effects.

In both developing a strategy and a force structure, the nature of potential opponents is the key influence. The force structure depends on their proximity, physical geography, economic and social structures, and defence capacity.

For the other Defence roles, planners have been able to avoid making statements about potential opponents. They have defined the geography limited to northern Australia. They have made some assumptions limiting the adversary to small-scale insertions where a generic force structure has few implications. Moreover, defence planners have defined a strategy around reactive and defensive operations aimed at maintaining the status quo. These assumptions are problematic enough, but it becomes nonsensical in the case of Strike. By adopting a force structure based on generic threats, does the ADF need the capacity to deal with every conceivable threat? The implications of potential Strike campaigns in or against Papua New Guinea, Singapore and China (which are listed here as three extreme examples) are sufficient to show that no one force structure can be optimised for all contingencies.

What is clear is that Strike plays an important part in Australia's strategic guidance. While the other Defence roles are described in defensive and reactive terms, Strike represents a way of gaining and maintaining the initiative. In a defence of Australia contingency, favourable conflict termination is only available in one of two ways. The most difficult way is by a slow process of attrition in which an adversary exhausts itself against Australia's defences. It has, however, long been recognised that, while the adversary retains the initiative, it can also control the level, spread and intensity of conflict to its advantage. The alternative is for Australia to undertake some offensive operations, and

current strategic guidance envisages that this will be in the form of Strike.

Land force Strike is likely to be one of the options chosen for the force structure because of its flexibility and unique characteristics. These will mostly be in the form of special forces, recognising that not every land force strike mission requires special forces.

CONCLUSION

As argued at the start of this paper, the bomber aircraft has its place as a Strike asset; however, Strike has also been effectively carried out by land forces and naval forces, and by several forces acting jointly. This led to the second point, which was that the right force depends on the circumstances. To get to the right force mix defence planners need to think about what they want to achieve.

Strike can be used to pursue a number of strategic and operational-level objectives: deterring conflict, conflict termination, attrition of the enemy's capabilities, controlling conflict escalation, regaining initiative and compelling defensive measures, neutralising enemy forces and infrastructure, and interdicting approaches. The efficacy of Strike depends on the effect sought and the nature of the enemy system, its linkages and vulnerabilities, as well as the attacking force capabilities.

Identifying objectives presents a difficulty to the ADF. First, Australia is a medium power at the extreme of a vast and diverse region. The nearby states all vary markedly in their geography, economy and social structures. Second, Australia does not yet have a clear view of the circumstances that will see it involved in conflict in the Asia-Pacific region, nor does it have a clear idea as to what its strategy in each circumstance would be. It is unclear as to what constitutes the likely threat and what specific strategy Australia would follow to deal with it.

To be effective as a significant contributor to conflict, Strike needs to be credible. To be effective as a deterrent, strike forces also need to be seen as credible. Whichever objectives are being pursued, they need the numbers, capability, readiness and sustainability to attack the necessary targets successfully. At present, it is not possible to determine whether

the ADF's current mix of Strike assets—air platforms, submarines and special forces—is correct. Nobody can say with certainty whether the forces are too weak to be credible or too extravagant, although it seems clear that Australia will never have a defence force capable of dealing with every imagined threat in the region.

Indeed, an issue that has not yet been pursued is whether independent Strike is the right offensive option for Australia. There have been some that argue that no offensive option is desirable (now admittedly a smaller group than at the height of the 'peace movement'); however, without an offensive option, it is unclear how Australia could compel an adversary to relent. Conversely, there has been some argument that conventional offensive operations in combination with alliance partners are more appropriate. For now, the ADF pursues Strike as its offensive option because that is what strategic guidance dictates.

What is clear is a strong requirement for flexibility in the ADF. An undetermined strategy and uncertainty over the threats Australia faces, places heavy demands on ADF versatility. Moreover, the region itself has demonstrated that it is capable of rapid changes to which the ADF would need to adapt quickly.

Land force Strike has shown that it can be flexible and can provide options that other Strike assets cannot. Special forces and conventional land-force units have adapted to different physical environments, varied levels of conflict, and changing missions. They are capable of offering a broad range of options. Significantly, in cases where recovery of personnel or assets is at stake, and in lower levels of conflict, land forces often possess an absolute advantage over air- and sea-based strike platforms.

In addition, there is a range of unconventional options that can prove valuable and to which Army can make a major contribution as well. The potential for cyberwarfare, PSYOPS, guerrilla operations and covert action all deserve more attention than they have had to date.

Ideally, it would be possible to conclude with a clear statement about the place of Strike as it affects Army; however, there are too many

unanswered questions. Prima facie, the Army can have an important role, but more needs to be done on Australia's strategy before the importance of any Service's contribution to Strike can be argued effectively. In the interim, the ADF will live with force structuring by judgment, perception, intuition and replacement of existing capabilities.

This essay recommends the establishment of an Army Aviation Strike Force (ASF) consisting of a mobile airborne Command and Control platform, AH-64 Longbow...Â The ASF will be a highly mobile, early entry unit designed for rapid strategic deployment worldwide. The capabilities of the ASF will include: joint and combined mobile C2, battlefield synchronization, precision attack, multi-target destruction, anti-armor/tank, stealth armed reconnaissance, unmanned aerial reconnaissance, counter-air, and tactical missile defense. The ASF is designed to provide the National Command Authority with a new joint and combined air mechanized decisive force capability. The Aviation Strike Force should be developed in conjunction with the Army's Force XXI progra About the Author. Armed conflict in the 21st century: the information revolution and post-modern warfare. Steven Metz. April 2000.Â The Navyâ€™s view of future war is based on a â€œrevolution in strike warfareâ€ using existing major platforms with better systems of target acquisition, intelligence, and guidance. The official American view of the future consistently treats technology, particularly information technology, as a force multiplier rather than as a locomotive for revolutionary transformation.Â Broadly speaking, the opening decades of the 21st century will see both symmetric formal war pitting two modern states, and asymmetric formal war pitting a post-modern military against a modern one. The requirement for a long-range strike capability in the era of increasingly effective anti-access weapons systems is clear. It is less clear that this capability requires a manned aircraft. Proponents argue that the United States must be able to â€œcontend with more mobile sets of targets,â€ â€œhold targets at risk,â€ and finally, â€œto hit hardened and deeply buried targets.â€Â In light of Russiaâ€™s action and the changing strategic situation in the Pacific, should the United States unilaterally restrict its development of long-range cruise missiles? Further, the convergence of new technologies (e.g., nano, materials, energetics, information, additive manufacturing) should provide major improvements in the range and destructive power of cruise missiles and drones in the next decade.