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**DEVELOPING AN APPROACH TO
WARFIGHTING
AT THE OPERATIONAL LEVEL**

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A thesis presented in partial fulfilment of the requirements for the degree of Masters of Arts in Defence and Strategic Studies at Massey University

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DEFINITIONS

Attrition	The reduction of military effectiveness or capability of either friendly or enemy forces caused by the continued loss of personnel or material. Rates of attrition determine the progress and likely ultimate outcome of a campaign embracing the direct approach. (ADFP 6).
Campaign	A sequence of planned, resourced and executed military operations designed to achieve a strategic objective within a given time and theatre of operations, usually involving the synchronisation of maritime, land and air forces. Campaign planning is the responsibility of the operational level commander. (JWP 0-10).
Centre of Gravity (COG)	Those characteristics, capabilities or localities from which forces derive their freedom of action, physical strength or will to fight. (JWP 0-10).
Centre of Gravity	That characteristic, capability or locality from which a military force, nation or alliance derives its freedom of action, strength or will to fight at that level of conflict. The COG at each level of conflict may consist of a number of key elements. (ADFP 6).

Combined Operation	An operation conducted by forces of two or more allied nations acting together for the accomplishment of a single mission. (ADFP 101).
Command and Control	The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. (ADFP 1 – Doctrine).
Command and Control Warfare (C2W)	An approach to military operations which employs all measures (including but not limited to operations security (OPSEC), military deception, physiological operations (PSYOP), electronic warfare (EW), computer operations and targeting) in a deliberate and integrated manner, mutually supported by intelligence and CIS, to disrupt or inhibit an adversary's ability to command and control the forces while protecting and enhancing our own. (ADFP 6).
Concept of Operations	A clear and concise statement of the line of action chosen by a commander in order to accomplish his mission. (ADFP 101).
Contingency Planning	Contingency plans are designed to provide responses for events which can reasonably be anticipated in an area of responsibility. (ADFP 6).

Critical Vulnerabilities	<p>A characteristic or key element of a force that if destroyed or neutralised will significantly undermine the fighting capability of the force and its COG. A Critical vulnerability is not necessarily a weakness but any source of strength or power that is capable of being attacked or neutralised. A successful attack on a critical vulnerability should aim to achieve a decisive point in an operation or campaign. A force may have a number of critical vulnerabilities. (ADFP 6).</p>
Culminating Points	<p>A culminating point is the point in time and location where a force will no longer be stronger than the enemy and risk losing the initiative. This may be due to reduced combat power, attrition, logistics, dwindling national will or other factors. To be successful, the operation must achieve its objectives before reaching its culminating point. (ADFP 6).</p>
Culminating Point	<p>When an operation can just be maintained but not developed to any greater advantage. (JWP 0-10).</p>
Decisive Points	<p>A major event that is a precondition to the successful disruption or negation of a COG of either combatant. A decisive point is created normally by successfully attacking or neutralising a critical vulnerability. Operational level planning aims to exploit an enemy's critical vulnerabilities in a sequence or matrix of decisive points known as lines of operation. (ADFP 6).</p>
Decisive Points	<p>Those actions, the successful completion of which are preconditions to the elimination of the enemy's COG. (JWP 0-10).</p>

Doctrine	Fundamental principles by which military forces, or elements thereof, guide their actions in support of national objectives. It is authoritative but requires judgement in application. (ADFP 101).
End-State	<p>End-state is identified at the national and military levels as follows:</p> <ol style="list-style-type: none"> (1) The national end-state is the set of desired conditions, incorporating the elements of national power, that will achieve the national objectives. (2) The military end-state is the set of desired conditions behind which the use of military force is no longer required to achieve national objectives. (ADFP 6).
End-State	The state of affairs which needs to be achieved at the end of a campaign either to terminate or to resolve the conflict on favourable terms. It is axiomatic that the end state is crucial to planning and the conduct of campaigns. (ADFP 6).
Forward Operating Base	Facilities established in an area of operations from which to launch, or to provide support to, military operations. (ADFP 6).
Interoperability	The ability of systems, units or forces to provide the services to, and accept services from, other systems, units or forces and to use the services so exchanged to enable them to operate effectively together. (ADFP 101 – Glossary).

Leverage	This refers to possessing a marked advantage in a particular capability and the advantage that can be gained by exploiting that capability. (ADFP 6).
Lines of Operation	Lines of operation describe how military force is applied in time and space through decisive points on the path to the enemy's COG. The progress towards the enemy's COG and the destruction of the enemy's critical vulnerabilities, resulting in a decisive point, may be measured by operational milestones. (ADFP 6).
Military Strategy	That component of national or multinational strategy presenting the manner in which military power should be developed and applied to achieve national objectives or those of a group of nations. (ADFP 101).
Mission	A clear, concise statement of the task of the command and its purpose. (ADFP 101).
Operational Milestones	Aids to understanding the pace and sequencing process are operational milestones. They are specific goals which impact critically on the sequence of the campaign. (ADFP 6).
Rules of Engagement	Directives issued by competent military authority which specify the circumstances and limitations under which forces will initiate and/or continue combat engagement with other forces encountered. (ADFP 101).

Sequencing	Sequencing is the arrangement of events within a campaign in the order most likely to achieve the elimination of the enemy's COG. (ADFP 6).
Strategic Concept	The course of action accepted as a result of the estimate of the strategic situation. It is a statement of what is to be done expressed in broad terms sufficiently flexible to permit its use in framing the military, diplomatic, economic, psychological and other measures which stem from it. (ADFP 101).
Strike	An attack which is intended to inflict damage on, seize or destroy an objective. (ADFP 101).
Surveillance	The systematic observation of aerospace, surface or sub-surface areas, places, persons, or things by visual, aural, electronic, photographic or other means. (ADFP 101).
Tempo	Tempo is the rate or rhythm of activity relative to the enemy. It incorporates the capacity of the force to transition from one operational posture. (ADFP 6).
Theatre of Operations	The geographical area assigned to the operational level commander by the strategic authority. (JWP 0-10)
Wargame	A simulation by whatever means, of a military operation involving two or more opposing forces, using rules, data and procedures designed to depict an actual or assumed real life situation. (ADFP 101).

INTRODUCTION

DEVELOPING AN APPROACH TO WARFIGHTING AT THE OPERATIONAL LEVEL

For nearly a century, the armed forces of Australia and New Zealand have been actively engaged in the defence of Australia's and New Zealand's vital interests. This defence has been marked by tactical proficiency and an ability to operate effectively with the forces of major allies, such as the United States and the United Kingdom. For many years, Australia's and New Zealand's armed forces were organised principally on the basis of what they could contribute to wider allied causes. While this integration with allies has ensured the protection of Australian and New Zealand interests and resulted in a high degree of tactical expertise within their respective forces, it has also meant that there has been little experience of planning at the operational level. In essence, this level provides the link between the strategic and tactical levels.

By the end of the Vietnam conflict, and the subsequent downsizing of the US presence in South East Asia, it was clear that both nations required a new approach that recognised their global commitments and the need for the ability to act alone or in partnership within the region. The Australian focus on the defence of its mainland, the policy of 'self reliance' and the increasing joint approach of the three services have been major contributors to the creation of a force capable of not only acting in support of alliances but, as its fundamental role, independently defending Australia and Australian national interests. Similarly, New Zealand has developed a policy of 'self reliance in partnership' and, in advocating a policy of closer defence relations with Australia, supporting its closest neighbour in time of crisis. This approach has led both Australia and New Zealand to realise the need to develop expertise in the planning and conduct of operations across all levels of war, and in particular at the operational level.

The thesis will examine, through historical and contemporary analysis, what the operational level of war involves and how it should be approached by the ADF and NZDF. To achieve this outcome the thesis will first examine the operational level of war and,

through historical examples, the application of operational art. It will then critically examine the development and application of three key components of warfare that will impact on a Defence Force's approach to the operational level: air power, technology and manoeuvre theory. Finally it will use the key deductions from this analysis to determine how, given Australian and New Zealand circumstances, the ADF and NZDF can best approach warfighting at the operational level.

CHAPTER ONE

THE OPERATIONAL LEVEL OF WAR AND OPERATIONAL ART

The operational level of war provides the link between the strategic and tactical level by orchestrating the lines of operational effort to realise military strategic objectives. It is the level at which the campaign¹ and major operations are planned, sequenced and directed. The operational level provides coherence to the tactical level by identifying the purpose and conditions whereby tactical forces are employed in pursuit of military strategic objectives. Without this link tactical actions are unlikely to achieve strategic objectives. For example, on the Eastern Front during World War II, tactical victories by the Germans were rendered irrelevant by Russian operational success, which in turn frequently failed to translate into strategic successes.

Success at this level of war requires the skilful application of operational art. Operational art is the skilful employment of military forces to attain strategic goals through the planning, orchestration and sustaining of campaigns and major operations within a theatre.² In developing a campaign, the commander applies operational art to meet the specific military strategic objectives and the end-state.³ A campaign commander must be able to: identify the end-state that constitutes the strategic objective; decide the operational objectives that must be achieved to reach the desired end state; and order a sequence of actions that fulfils the operational objectives and apply resources to sustain the sequence of actions.⁴ Until the 1980s the Russians led the field in the study and practise of the subject, building on the theoretical foundation laid by Tukhachevsky and others in the 1920s and 1930s, and their experience on the Eastern Front in World War II. Today it is a concept

¹ United Kingdom Doctrine for Joint and Combined Operations defines a campaign as a sequence of planned, resourced and executed military operations designed to achieve a strategic objective within a given time and theatre of operations, usually involving the synchronisation of maritime, land and air forces. Campaign planning is the responsibility of the operational level commander. JWP 0-10, 1997.

² United Kingdom Doctrine for Joint and Combined Operations defines a Theatre of Operations as the geographical area assigned to the operational level commander by the strategic authority.

³ ADF Publication 6, Operations, defines an end state as that state of affairs which needs to be achieved at the end of a campaign either to terminate or to resolve the conflict on favourable terms. It is axiomatic that the end state is crucial to planning and the conduct of campaigns.

⁴ ADFP 6, Operations, Canberra: Australian Defence Force Headquarters, p.3-1.

endorsed in Australian and New Zealand doctrine. This chapter traces the origins of operational art and then describes its key components, using historical examples throughout to demonstrate their application within a campaign.

Dr David Horner,⁵ of the Australian Strategic and Defence Studies Centre, traces the current interpretation of the operational level of war to Napoleon. Napoleon's understanding of the operational art was demonstrated in his ability to manoeuvre huge armies, utilising corps and divisions, on separate axes prior to their concentration for the decisive battle. The subsequent application of this level of war, and the use of operational manoeuvre, by the Germans is attributed to Helmuth von Moltke, who stressed that the commander at the operational level must imagine the entire operation and not get immersed in detail.⁶ The Germans' sequencing of operations from mobilisation, through manoeuvre to the decisive battles fought during the Austro-Prussian War of 1866 and the Franco-Prussian War of 1870-71, illustrated their skill in this new operational art. However, it was not until the aftermath of World War I that the Germans and the Soviets formally adopted the concept.

As part of a collection of essays on the operational level of war, Lieutenant Colonel Kennedy⁷ identifies national experience and the prevailing conditions as the catalyst for the development of a national defence force's operational concepts. The Germans, defending two lengthy frontiers and limited in numbers by the Versailles treaty, were forced to adopt a mobile operational concept which exploited new technologies and aimed at the penetration of weak points and rapid exploitation to the enemy's rear area. In parallel, the Soviets' need to conduct fluid operations over vast areas required them to move and concentrate their forces at decisive points with great speed. Accordingly, cavalry units were used as mobile groups to penetrate enemy lines and then attack vital points in depth.

⁵ Dr David Horner provided this presentation to the ADF's warfighting concepts research team in 1997. He has researched the development of the operational level of war and operational art extensively both from an historical and an Australian perspective.

⁶ Colonel Michael D. Krause, 'Moltke and the Origins of Operational Art', Military Review, September 199, p.35.

⁷ Major General J.J. G. Mackenzie and Brian Holden Reid, (eds), The British Army and the Operational Level of War, London: Tri-Service Press, 1989, p.72. This book contains a collection of essays produced during the Higher Command and Staff College Course held at Camberley to prepare selected senior officers for command of field formations and operational staff appointments in national and international headquarters.

In tracing the current interpretation of the operational level of war and the application of operational art, however, World War II provides a major watershed. The operational level of war was formalised by the formation of theatre commands, such as Macarthur in the South West Pacific and Mountbatten in South East Asia. They in turn had commanders under them who were responsible for planning, orchestrating and sustaining subsidiary campaigns. Slim, for example, successfully executed and sustained the sequence of actions that achieved the operational objectives necessary to the ultimate defeat of the Japanese in Burma.

In the immediate aftermath of World War II the further development of operational art and campaign planning became subordinate to nuclear strategies, created by the Cold War and the US/Soviet nuclear arms race, and counter insurgency operational concepts, resulting from campaigns in places such as Borneo, Malaya and Kenya. However, the US defeat in Vietnam and the perceived ability of the Soviets to gain a numerical advantage in conventional forces over NATO in central Europe provided the catalyst for the US to develop a concept called Air Land Battle. This concept, developed in the late 1970s, combined manoeuvre with deep operations against the Soviet follow-on forces and rear echelons. Soon afterwards the US formally agreed to the existence of the operational level of war,⁸ with the British, Australian and New Zealand Defence Forces following the American lead in 1985⁹ and 1986 respectively. However, it was not until the Gulf War in 1991 that the US were given the opportunity to practise the Airland Battle concepts and demonstrate the application of operational art at the operational level of war. The Coalition's success against Iraq not only secured the formal acceptance by most western defence forces of the requirement for headquarters at the operational level of war, but also fuelled the debate of how to best apply operational art in future campaigns.

In planning a campaign a commander must clearly define the conditions to be achieved at the conclusion of the campaign, which in turn must satisfy the strategic end-state. A successful campaign requires the military strategic and operational level commanders to be as one on the desired end state at the commencement of a campaign. For example, in defining his military objectives and overall plan for defeating the Japanese in

⁸ FM 100-5 was published in 1982 and defined the operational level as using available military resources within a theatre to attain strategic goals.

⁹ The British Army Field Manual Volume 1 described the operational level of war, focusing on the size of formation. This definition was revised to align with the US definition in 1989.

Burma during World War II Slim ensured that his superior, Mountbatten, was consulted throughout. The lack of a similar relationship between Wavell and Alexander earlier in the campaign had in part created the conditions that resulted in the allies' defeat and withdrawal into India. Almost a century before, the lack of a clear strategic direction had meant that the Crimean War 'was (never the) outcome of a reasoned, calculated policy', and consequently degenerated into a 'heroic disaster'.¹⁰

Once these military conditions are identified the commander must determine the course of action necessary for their achievement. Central to planning this course is the identification of that vital element of the enemy's and our own overall capability that, if destroyed or neutralised, will lead to defeat. This vital element is called the centre of gravity¹¹ and at the strategic level can be as abstract as public support for the war, whilst at the operational level it could be the morale of the field forces. Both these factors were instrumental in the failure of the US in Vietnam and the Argentinian defeat in the Falklands campaign (1982).

Clausewitz defined the centre of gravity as 'the hub of all power and movement, upon which everything depends.'¹² If one's own centre of gravity is vulnerable, protective measures are required to avoid defeat. During the Gulf War the unity and integrity of the Coalition was its strategic and operational centre of gravity. Saddam Hussein's provocation of Israel through SCUD attacks was a well-judged, but ineffective, attack on the Coalition's centre of gravity. That integrity might have been jeopardised had Israel embarked upon military operations against Iraq. The prompt dispatch to Israel of a high-level United States (US) negotiating team and of Patriot missiles was a deft response that prevented the potential break up of the coalition.¹³

The targeting of an opponent's centre of gravity is not restricted to conventional warfare. One scholar claims that during the Malayan Emergency (1948-59), the centre of gravity for the insurgents was their dependence on the support of the estranged Chinese. Templer countered this support at the operational level by isolating terrorists from the

¹⁰ Norman Dixon, *On the Psychology of Military Incompetence*, London: Pimlico, 1994, p.31, 43.

¹¹ United Kingdom Doctrine for Joint and Combined Operations defines the Centre of Gravity as those characteristics, capabilities or localities from which forces derive their freedom of action, physical strength or will to fight.

¹² Carl Von Clausewitz, *On War*, translated by Sir M. Howard and P. Paret, Princeton: University Press, 1984, p.177.

¹³ General Sir Peter De La Billiere, *Storm Command*, London: Harper Collins, 1992, p.202.

logistics support provided by the Chinese population by resettling them into protected villages. At the strategic level he gained the support of the influential Chinese through convincing them that they had a stake in shaping the future of the country.¹⁴

A campaign plan will aim to eliminate the enemy's centre of gravity through a series of decisive points.¹⁵ Further, these decisive points will be linked by lines of operation which provide the commander with a critical path to the centre of gravity and ensure that events are tackled in a logical progression. To successfully apply this approach the commander must first identify those components that are critical to an opponent's plan, termed critical vulnerabilities,¹⁶ and whose removal will cause an opponent to change their plan and, if exploited, provide the opportunity to dislocate, disrupt and eventually defeat them. A commander's key role is to orchestrate all the forces and resources within a theatre so that sufficient force is imposed when and where it is required.

Orchestration involves the timing and sequencing of operations throughout the theatre so that their cumulative effects are focused on the achievement of decisive points. At the operational level orchestration requires the selection of resources, and balancing their allocation between concurrent and sequential operations, to ensure the campaign's overall momentum is sustained and sustainable.

The sequence of operations adopted by the US during the Gulf War, involving the air campaign to remove Iraq's air force, command support systems and logistics supply, prior to the attack against its land forces, illustrates how successful this approach can be when implemented appropriately.¹⁷ By contrast, the turning point in the Luftwaffe's air campaign against Britain in 1940 was the change from attacks against the British radar and RAF bases to the bombing of the civilian population. By switching the Luftwaffe's focus onto cities, in the belief that therein lay the centre of gravity, Goering not only eased

¹⁴ Frank Kitson, *Low Intensity Operations*, London: Hutchinson, 1971, p.143.

¹⁵ United Kingdom Doctrine for Joint and Combined Operations defines decisive points as those actions, the successful completion of which are preconditions to the elimination of the enemy's centre of gravity.

¹⁶ Critical Vulnerabilities are those components that are critical to an opponent's plan. Their removal causes an opponent to change their plan and, if exploited, provides the opportunity to dislocate, disrupt and eventually defeat them.

¹⁷ H.Norman Schwarzkopf, *It Doesn't Take A Hero*, New York: Bantam, 1992, pp.314–20.

pressure on the British fighters, but caused the failure of the Luftwaffe to achieve their objective: control of the air.

The timing and sequencing of operations is also shaped by the approach, direct or indirect, taken to achieve decisive points. A direct approach tends to rely on the use of overwhelming military superiority over a short period. However, as demonstrated by the Israelis in the Lebanon campaign, this approach can still prove unsuccessful if there is no clear strategic direction. An indirect approach can involve political, economic or soft warfare methods, such as information warfare, to remove an opponent's domestic and international support. Alternatively, it can involve a combination of deception, speed and shock action to defeat an opponent. Perhaps the best known examples of such operations are the German Panzertruppe actions in France in 1940, in the Balkans in 1941 and in the early battles of the Russian campaign; the very actions that inspired the development of manoeuvre warfare. In the 1956 battle for the Sinai, the Israelis demonstrated a similar approach by combining deception, through diverting attention to its border with Jordan, and then employing air and armour Blitzkrieg tactics to rout the Egyptian forces.

Ultimately, successful campaigns require the co-ordination of matched and timely support to all forces from deployment, through completion of assigned tasks to redeployment. Operational level logistics includes balancing current consumption with the need to build up logistic support for subsequent operations, lengthening the lines of communications and staging logistic support forward to maintain the tempo of operations.

Wellington's maxim that 'to gain your objectives you must feed' acknowledged the importance of logistics to a successful campaign. Alexander the Great would only campaign over long distances if he could either keep close to his fleet train or feed his forces from the surrounding countryside. Despite this sound philosophy, however, he still lost three-quarters of his army on the march through the deserts of Baluchistan in 326 BC as a result of his fleet being confined at the Indus mouth.¹⁸ More recently the stockpiling that occurred prior to the ground offensive during the Gulf War acknowledged the principle that without adequate logistic support the land forces would reach their

¹⁸ John Keegan, *A History of Warfare*, London: Hutchinson, 1993, p.304.

culminating point¹⁹ prior to achieving their objectives. Even so some units came to a grinding halt 100 hours into the campaign.

In combining the logistics lessons of history with the indirect approach, Slim's main objective during the Burma campaign was the Japanese lines of communication between Meiktila and Thazi, without which Kimura's army group could not exist.²⁰ In sequencing his campaign to achieve this aim Slim needed to deceive the Japanese into believing that Mandalay was the main objective. The success of this deception plan was borne out by the deployment of Japanese reserves to Mandalay. The ensuing capture of Meiktila provided the catalyst for the fall of Mandalay and, by isolating Kimura, set in place the conditions for the eventual defeat of the Japanese in Burma.

Underpinning the successful orchestration of a campaign, is a clearly defined command and control structure. The associated processes and systems must facilitate the commander's awareness of the campaign, aid in the making, implementing and monitoring of decisions and facilitate the timely dissemination and implementation of the commander's plan. Ultimately, the aim is to make and implement appropriate decisions at a rate faster than an opponent.

Rommel wrote of the Desert Campaign in 1940, 'it is often not a question of which of the opposing commanders is the higher qualified mentally, or which has the greater experience, but which of them has the better grasp of the battlefield'.²¹ Fifty years later the campaign plan for the defeat of Iraq in Operation Desert Storm relied on the removal of Saddam Husein's 'grasp of the battlefield'. In the early days of the air battle 26 targets of Iraqi leadership were struck, of which 60% were reportedly severely damaged or destroyed with the explicit aim of severing or disrupting command and control links from the high echelon command.²²

In describing the key components of operational art this chapter has used historical examples from different campaigns to demonstrate their application. The chapter will now

¹⁹ United Kingdom Doctrine for Joint and Combined Operations defines Culminating Point as when an operation can just be maintained but not developed to any greater advantage. Examples include Rommel at El Alamein and Hitler at Moscow.

²⁰ William Slim, *Defeat into Victory*, London: Cassels, 1961, p.393.

²¹ Basil H Liddell-Hart, *The Rommel Papers*, London: Faber and Faber, 1953, p.23.

²² J.M. Lenorovitz "F-117s Drop Laser-Guided Bombs In Destroying Most Baghdad Targets", *Aviation Week and Space Technology*, 1991, p.31.

take the Falklands Campaign and, through the analysis of how each side planned and executed their plans, illustrate how they link together.

Argentina's strategic aim in invading the Falklands was to place the Islands under Argentine sovereignty. Whilst this step was described as a legitimate act, it was also designed to win support for a Government which had been elected on the promise of returning the Malvinas to Argentina. To achieve this strategic end-state militarily, Argentina needed to occupy the islands and then build up sufficient force to dissuade the UK from attempts to recapture them. In tandem, the government attempted to legitimise the use of force by engaging in active international negotiations.

To support this strategic goal the military junta, under General Galtieri, directed the Navy and Marines to occupy the Falklands and South Georgia and then build up a garrison. The operational concept, largely formed in Buenos Aires, was to garrison the Falklands strongly and then use air and sea power to defeat UK forces in the MEZ. Fundamental to the success of this plan was an expectation that UK forces would be impossible to sustain so far from home in winter and so close to the Argentine mainland. At the tactical level Menendez was ordered to defeat any forces landing on the islands. Overall, Argentina expected a British demonstration of force as a face-saver, followed by negotiation and tacit acceptance of a *fait accompli*.

The United Kingdom's strategic aims, in response to Argentinian action, involved the repossession of the Falklands and South Georgia by negotiations if possible, and by force if necessary. This first phase involved engendering international support to send a strong message of intent to Argentina, both through US shuttle diplomacy and EEC economic sanctions. US President Reagan's approval of the Haig peace mission on 7 April and the EEC's approval of economic sanctions on 9 April fulfilled these requirements. Domestically, the British aims were facilitated by a united political front which enabled the redirection of defence resources and the freeing up of money to short circuit the procurement process.

At the military strategic level the architecture required for timely decision making was rapidly constructed. A war cabinet, closely paralleling Lloyd George's from World War I and Churchill's from WWII, was formed to issue political and strategic direction.

Beneath this the Chief of Defence Staff (CDS), with the Chiefs of Staff Committee (COSC) advising him, was appointed as the principal military adviser. Finally, Commander In Chief of the Fleet was appointed the joint operational commander with air and land component commanders.

As the campaign plan developed, COSC provided the medium for converting political guidance into military directives for the operational commander. COSC's military problem was how to assemble within a few days the forces needed to recapture the Falklands, convey it to the South Atlantic, carry out a successful landing, and then sustain the force throughout. Foremost in any appreciation was the inability of either side to sustain a long, hard campaign of attrition. Despite these constraints the decision to blockade and recapture the Falklands was quickly taken in order to give the operation the best chance of success before winter set in. Accordingly, the British decided to sail the carrier group on 5 April from Portsmouth and refine the planning at all levels as the fleet moved to the Ascension Islands. Concurrently, a submarine enforced Maritime Exclusion Zone (MEZ) was declared on 12 April and a Vulcan bomber raid against the airfield at Port Stanley was used in an attempt to compel Argentina to hold forces back for home defence.

At the operational level the British had three courses of action available: blockade, a show of force or a counter invasion. Blockading the Falklands, in the hope of a peaceful resolution, would have imposed a severe strain on the Task Force and British Naval and Maritime resources. Further, the harsh environmental conditions, economic strain on the defence budget and the fact that the occupying forces had managed to build up its stockpiles on the Falklands, removed this option from consideration.

For the second option to succeed, involving a show of force in order to demonstrate British resolve, relied on the Argentinians responding by seeking a negotiated agreement. However, the failure of the British strategic bombing to lessen Argentinian intent and the speed with which the Argentinians avenged the *Belgrano* through sinking *HMS Sheffield* demonstrated the determination of the Argentinian leadership to continue.

Counter-invasion proved to be the only viable military option and was adopted accordingly. The subsequent campaign plan involved five phases: naval blockade;

engagement of all Argentinian forces in the MEZ; landing and establishment of a beachhead; development of operations ashore and the main battle for Port Stanley.²³

In planning a campaign a commander must clearly define the conditions to be achieved at the conclusion of the campaign, which in turn must satisfy the strategic end-state. For Argentina this involved the retention of the Malvinas and establishing Argentinian Sovereignty. The British end-state naturally required the removal of Argentina from the Falklands and the re-establishment and retention of sovereignty.

Once the conditions have been decided a successful campaign requires the military strategic and operational level commanders to agree on the desired end-state and the means towards achieving it. Although the Argentinian hierarchy was clear on the end-state the means towards achieving that end were clouded by inter-service rivalry. In particular the lead status of the Naval Staff in planning the invasion, to the exclusion of the Air force, was discredited once the Navy was forced to sit in Argentinian ports.

Central to campaign planning is the identification of the vital element of the enemy's and one's own overall capability that, if destroyed or neutralised, will lead to defeat. Argentina and Britain shared loss of international and public support as their strategic Centres of Gravity. Accordingly, Britain secured valuable allies when it gained US and EEC support. Domestically both sides appreciated that they could only retain public support for a short and successful military campaign. At the operational level the centre of gravity for both sides, given the distances involved, was their ability to secure their lines of communication. This security required both sides achieving some degree of maritime and air control.

To protect its centre of gravity Argentina needed to impose an effective exclusion zone. However, the Navy's inability to deploy made this task difficult and placed an enormous responsibility on the Argentinian air force, already extended by the 1,500 mile flying zone. While the sinking of the *Hermes* and *Invincible* were decisive points in the Argentinian plan, the failure to impose the defensive perimeter necessary to deny an amphibious lodgment eventually proved costly. The Argentinians never recovered from

²³ Max Hastings, The Battle for the Falklands. London: Pan Books, 1993, p.227.

this failure, particularly since it was to expose their biggest vulnerability - inferior land forces.

The British plan centred on protecting the Amphibious Task Force and securing their extended Lines of Communication. The development of the Ascensions, the inability of the Argentinians to threaten this major logistic base and the successful passage of the Task Force to the South Atlantic were decisive points for the British plan. The degree of success, however, lay with the ability of the amphibious landing force to successfully achieve a beachhead. This outcome required the orchestration and sequencing of a series of pre-conditions necessary for operational success. The submarine imposed MEZ, demonstrated with the sinking of the *Belgrano* on 2 May, the declaring and policing of the TEZ from 30 April and the San Carlos landings on 21 May provided these pre-conditions which ultimately enabled the securing of Port Stanley and success for Britain.

As always, logistics issues were critical in each side's plans. On the positive side for Argentina, they managed to stockpile 30-90 days of supplies, the 12,000 ton container ship *Formosa* successfully ran the British blockade and the airstrip in Port Stanley remained functional throughout the campaign. However, the daily requirement for 15 tons of food to maintain the in-theatre land forces resulted in an enormous logistics strain which proved unsustainable.

From the British perspective the logistics infrastructure was already in place. MOD oversaw STUFT and the mobilisation of war reserves; planning and loading operating procedures had been rehearsed in recent NATO reinforcement exercises and NATO war stocks were available. Throughout the campaign UK based staffs 'pushed' stores to Ascension and the Task Force 'pulled' them forward as required. However, despite this well orchestrated logistics structure the British had reached its logistics, and arguably its operational, culminating point with the capture of Port Stanley.

In conclusion, both sides had correctly identified their own and the opponents' centre of gravity and planned to various degrees accordingly. As in all campaigns, however, success went to the side able to secure their own, whilst exploiting their opponent's vulnerabilities and centre of gravity. Therein lies the answer to the successful application of operational art.

This chapter has described the components that need to be considered when planning and executing operations and campaigns to achieve the desired strategic end state. In developing a campaign, the commander must first identify the end state that constitutes his given strategic objectives and then apply operational art to plan, orchestrate and sustain the various phases of a campaign. By orchestrating operational manoeuvres simultaneously the commander seeks to shape the theatre and isolate and destroy selected points to create the conditions for decisive action against the centre of gravity. The next chapter will analyse command at the operational level, focusing on how two separate commanders applied the components of operational art described in this chapter.

CHAPTER TWO

COMMAND AT THE THE OPERATIONAL LEVEL OF CONFLICT

'No amount of information and advanced technology can guarantee success. In the end it is the person, particularly the commander, that counts.'

In providing the connection between the strategic and tactical levels of conflict an operational level commander is required to translate strategy into operational, and ultimately tactical action. It requires a commander to identify the end-state that constitutes his given strategic objective; to decide the operational objectives that must be achieved to reach the desired end state; to order a sequence of actions that fulfils the operational objectives; and to apply resources to sustain the sequence of actions. Ultimately a campaign commander must ensure that his actions lead to the achievement of the end-state. This entails a thorough understanding of the strategic commander's perspective and intent. A campaign commander must then select and remain focused on the operational objectives and on the enemy's centre of gravity. If he loses this focus, becomes actively involved in the tactical activity of command, he loses perspective; he may win battles but fail to execute his mission.

A short historical analysis provides a useful insight into how command and control at the operational level has evolved. The commander at first led his soldiers by personal example, commanding his troops from a central location in the decisive battle. At the Battle of Gaugamela in 331 BC, for example, Alexander first shaped the battlefield by forcing Darius to attack the Greek Army's right flank and then, when a gap in the Persian front resulted, personally led a ferocious charge directly at King Darius and forced him to leave the battlefield. This ability to seize an opportunity marks Alexander's success as a leader and also demonstrated the direct influence early commanders had on the battlefield. Once he entered battle, however, and with his troops close behind, there was little flexibility left to the commander if he wanted to change his plans.

As battlefields grew in size commanders could not influence the progress of battles progress single-handedly. Napoleon's style of centralisation of command was a sine qua non of his view of successful campaigning. "In war, men are nothing: one man is everything".²⁴ Yet, he also designed an organisation which enabled him to exercise command whilst decentralising control. He gave short clear directives and then allowed his subordinates the freedom of action to carry them out. This approach enabled the separate components of his Army to operate independently, albeit for short periods, towards a common goal. He additionally devised a general staff whose task was to control and manage the flow of information. This information flow involved the establishment of a communications network based on runners, couriers and flags and a system of directed telescopes which enabled Napoleon to access information when and where he wanted to throughout the battlefield. Again this view should be balanced by Chandler's view that the staff of the Grande Armee was not really an impressive organisation save only for size. At best it only relieved Napoleon of mechanical duties; at worst it misinterpreted his orders and caused ruinous blunders.²⁵

The industrial age resulted in decisive battles being replaced by a series of battles fought over large geographical areas. Improved communications and better transport resulted in the military objectives expanding and the commander becoming less of a leader and more of a co-ordinator and controller. The American Civil War, however, still provided examples of commanders combining leadership and command. Stonewall Jackson at Chancellorsville in 1863, for instance, died after being shot by one of his own men after going too far forward to see the exact position to cut off the Federal's line of retreat.

In World War I the impact of individual commanders diminished, particularly in France, as they became reliant on their headquarters and increasingly isolated from the fighting elements. When Douglas Haig became Commander in Chief of the British Expeditionary Force (BEF) in late 1915, for example, his appointment inaugurated a style of command that tended to isolate GHQ and himself from the rest of the Army.²⁶ On the German side, Schlieffen 'envisaged directing...from a comfortable chair...overlooking the

²⁴ David G. Chandler, *The Campaigns of Napoleon*, London: Weidenfeld and Nicolson, 1978, p.xxxix.

²⁵ *ibid.*, p.374.

²⁶ Tim Travers, 'A Particular Style of Command', *The Journal of Strategic Studies*, 1987, p.10.

whole battlefield on a map. From where he could telephone inspiring words...'.²⁷

However, when the artillery cut the telephone lines and the wireless sets jammed, he soon found himself unable to exert any influence on his meticulously conceived plan.

Whilst there were exceptions to the rule, such as General Allenby's successful execution of the Palestine Campaign, World War I is largely marked by the military incompetence displayed by commanders at the operational level. Analysts involved in chronicling the reasons for the many failures in France during World War I have identified inept command as a key factor. J.C. Fuller comments that as soon as a commander in World War I left his headquarters he became powerless, the result being that 'commanders became ...office soldier[s], telephone operator[s] or dug out dweller[s]'.²⁸

World War II, and the introduction of improved communications and mobility, provided commanders with the opportunity to again combine command with leadership. Commanders, such as Rommel, were able to apply forward command due to their explicit faith in their staff. Furthermore, the German Staff System empowered the Chief of Staff to make decisions when a commander was out of communications. This approach was mirrored on the British side by commanders such as Montgomery who believed that 'Operational command in the field must be direct and personal... The commander must be well forward. It is a mistake to think that once you have given an order there is nothing more to be done; you have got to see it carried out in spirit in which it is intended'.²⁹

A key lesson from the dispersed campaigns fought during World War II, and one that was to shape all future campaigns, was the need for a level of command that relied less on influencing current battles but more on anticipating future battles and sustaining the overall campaign. This chapter will use two commanders, Generals Slim and Schwartzkopf, and their respective experiences during the Burma Campaign and the Gulf War, to demonstrate some of the key aspects of command at this level, the operational level of war.

Slim's style of command during the Burma campaign demonstrated some of the key components necessary for success at this level of war. An analysis of this campaign

²⁷ Barbara Tuchman, *The Guns of August*, New York: Mamillan, 1962. p.114.

²⁸ J.F.C. Fuller, *Generalship: Its Diseases and Their Cure*, London: Faber and Faber, 1933. p.175.

²⁹ 21st Army Group Pamphlet, 1945.

demonstrates: firstly, the close relationship he maintained with the strategic level in order to secure the necessary guidance and assets; secondly, the key planning factors he considered and finally, the command and control structures, processes and systems he applied. More recently General Schwarzkopf's command of the coalition during the Gulf War provides examples of how these same components can be applied in modern warfare.

In determining the operational objectives necessary to achieve the desired strategic end state it is critical that the operational level commander receives clear guidance on what the strategic goals are. Once this intent is confirmed the campaign commander must keep strategic level commanders constantly updated in order to retain their support and ultimately their confidence.

In attributing reasons for the failures associated with the first phase of the war in Burma, the Retreat, Slim³⁰ cited the failure of the allied commanders to provide the forces in Burma with a clear strategic object for the campaign.³¹ Accordingly, the Burma Campaign was launched with no clear appreciation of either the political or military objectives. This situation was exacerbated by the military separation of Burma from India and the division of operational control and administrative responsibility between different commands. Moreover, in an operational environment where there were differences between British and American attitudes towards the Burma Campaign and a diverse national make-up of forces involved in the theatre, the lack of an appropriate strategic command organisation threatened to unhinge the campaign. It was not until a Supreme Headquarters responsible for controlling all Allied forces within South East Asia was formed that a clear strategic end-state was established. Slim's experiences in the first part

³⁰ As commander of the Fourteenth Army Slim was the driving force behind the defeat of the Japanese armies in Burma during World War II. Slim's initial experiences in this campaign, however, witnessed him commanding the 1st Burma Corps during the disastrous Allied retreat, following the fall of Rangoon, which resulted in the Japanese occupation of Burma in 1942. On assuming command of the Fourteenth Army in 1943 he used the lessons learnt from the allies' earlier defeats to develop and implement a campaign plan which, in combining attrition and manoeuvre, resulted in the total defeat of the Japanese by 1945. The responsibilities and issues facing Slim throughout this campaign provide an invaluable insight into the key aspects of command at the operational level of conflict.

³¹ William Slim, Defeat into Victory, London: Cassels, 1961, p.535.

of the Burma Campaign clearly illustrate the requirement for clear strategic guidance in order to enable an operational level commander to identify the military conditions that constitute his given strategic objective.³²

Slim's early experiences as a Corps commander in the Burma Campaign additionally paved the way for his later handling of relations with superior commanders at the strategic level. Part of the reason for General Alexander's failure to provide Slim with clear and attainable objectives was his inability to resist pressure from General Wavell. Slim did not repeat his predecessor's mistake when commanding the Fourteenth Army. Whilst he was always diplomatic when dealing with his superiors, he never hesitated to make his opinions clear. In combination these attributes earned him both their confidence and full support. This reality was illustrated in the Imphal/Kohima battle in 1944 where, despite adverse conditions constantly threatening the outcome, he received the full support of both Mountbatten and Gifford.³³ Moreover, by resisting the many demands from above to hurry with the relief of Imphal, he kept to his plan of wearing down the enemy. The final result proved that his concept of how to conduct the campaign was correct.

The Burma Campaign clearly illustrates the requirement for an appropriate strategic command organisation that is capable of providing an operational commander with clear strategic guidance in order for him to translate strategy into operational, and ultimately tactical action. Furthermore, it shows that as a campaign develops the operational level commander must keep the military strategic commander informed of his actions, problems and future plans. These imperatives provide the conditions necessary for the campaign commander to successfully apply operational art in a given theatre.

General Schwarzkopf, as the operational commander in the Gulf war, was not immune to intervention from the national and military strategic levels. Schwarzkopf understood the political context of war as well as the operational details of modern combat, a critical attribute in an operational commander. After the initial deployment of forces to defend Saudi Arabia from Iraqi aggression, Schwarzkopf knew instinctively that an offensive to free Kuwait was likely to follow. Whilst his initial operational objective was

³² ADFP 6, Operations, p.3-1.

³³ Slim, p.342.

the defence of Saudi Arabia,³⁴ political pressure mounted for an offensive to be conducted as soon as possible to liberate Kuwait. Accordingly, Schwarzkopf was requested by Dick Cheney, the US Secretary of Defence, and General Powell, the Chairman of the Joint Chiefs of Staff, to put together an offensive plan. He did not consider this course to be achievable, primarily because it required more forces than were allocated to him. Accordingly, Cheney and Powell developed independent military options with separate planning staffs behind Schwarzkopf's back.³⁵ This example demonstrates that at this early stage in the campaign the political and military relationships at the strategic and operational level were vulnerable, largely due to unpractised procedures and confused responsibilities.

Another potential weakness in the relationship between the strategic and operational levels was President Bush's interest in using the crisis to secure popular support. For example, on reading the opinion polls regarding his poor popularity the President remarked: 'if we could whip the Iraqis in three to four weeks, all these critics would suddenly change their minds'.

As the crisis and military response developed these initial problems were ironed out as individuals defined their roles and relationships with each other. Secretary Cheney noted, prior to the land offensive, that the President 'has established goals and objectives for us, he has signed off on the broad outlines of the strategy and reviewed the overall plan, but he has then left it up to our military commander in the field, General Schwarzkopf and General Powell, to decide how the campaign ought to be prosecuted.'³⁶ However, as demonstrated in Burma, problems associated with the interaction between the strategic and operational level have the potential to unhinge a campaign at any stage.

Within the theatre of operations, Schwarzkopf, like Slim, had to manage forces of varying quality, contrasting cultures and different political agendas. Accordingly, the nature of mounting combined operations needed to be tempered by the circumstances that had created the coalition,³⁷ in this case the problems associated with Arabs fighting Arabs.

³⁴ Peter Petre, & General H. Norman Schwarzkopf, It Doesn't Take a Hero, New York: Bantam Books, 1992, p.355.

³⁵ Michael Gordon, & General Bernard E. Trainor, The Generals' War: The Inside Story of the Conflict in the Gulf, First Edition, New York: Little, Brown and Company, 1995, p.143.

³⁶ Richard Pyle, Schwarzkopf, the Man, the Mission, the Triumph, London: Mandarin, 1991, p.137.

³⁷ ADFP 6, Operations, p.8-4.

Throughout the campaign, the Iraqis threatened to attack Israel in order to provoke a retaliatory response that would bring Israel into the war and threaten the coalition's cohesion. From the first day in the Gulf, the Saudis had advised Schwarzkopf that any involvement on the part of Israel would make the Arab position untenable.³⁸ The political imperative to preserve the coalition at all costs influenced the operational war effort and air power resources were diverted to hunting and destroying mobile Scud launchers. This requirement prolonged the campaign plan,³⁹ but ultimately ensured its success.

Similar issues included the difficulty France had in deciding what role its forces would play due to conflicting interests over commercial arms sales to both Saudi Arabia and Iraq.⁴⁰ France's late decision to join the coalition in the offensive phase required a degree of flexibility by those involved in the planning process. Some Arab nations' reluctance to directly attack Iraq was overcome by assigning them a support role. Overall, therefore, whilst Schwarzkopf acknowledged that national issues sometimes distracted him at various stages during the development and orchestration of his operational plan he appreciated that the integrity of the coalition was critical to the successful outcome of the campaign.

Continuous interaction between the strategic level and the operational commander is an essential element in a successful campaign. Equally the cohesion of the coalition requires good communications between national commanders, and their involvement in the planning process and the setting of priorities. Slim's and Schwarzkopf's efforts to keep the strategic level informed and the coalition working together towards a common goal demonstrate the diplomatic skills required of an operational level commander.

Operational art is the employment of military forces to attain strategic goals through the design, organisation, sequencing and direction of the campaign and major operations.⁴¹ The identification of the enemy's centre of gravity and the focus on the logical development and execution of activities necessary to expose and destroy it are the essence of operational art.

³⁸ Frontline interview with General Schwarzkopf, Internet, 5 Jan 96.

³⁹ *ibid.*, Internet, 5 Jan 96.

⁴⁰ Michael Gordon, & General Bernard E. Trainor, The Generals' War: The Inside Story of the Conflict in the Gulf, First Edition, New York: Little, Brown and Company, 1995, p.390.

⁴¹ ADFP 6, Operations, p.3-1.

In designing a campaign plan the operational level commander can develop either a direct or indirect approach. In the initial stages of Slim's campaign to defeat the Japanese he was forced to adopt the former course. The only option available to Slim was to inflict a crippling blow upon the enemy before re-entering Burma. The ensuing Imphal/Kohima battle witnessed the adoption of a plan which, by forcing the Japanese to apply attritional warfare against the Imphal defences, resulted in enormous enemy casualties. Further, based on his earlier experiences in 1942, Slim reasoned that, once the monsoon burst, the Japanese lines of communications would become impassable, laying them open to defeat. For four months in 1944 the battle raged at Imphal and Kohima. However, with strong support from his superior commanders and the largest air supply operation in World War II, Slim was eventually in a position to launch an offensive that forced the enemy beyond the Chindwin River. This phase of the Campaign reflects the requirement for a Campaign commander to maintain a clear aim through resolute command and the ability to adopt an offensive phase when the circumstances have changed.⁴²

The period between the victory at Imphal in 1944 and the capture of Rangoon in 1945 provides a good example of the employment of operational art at its best. Through clear lines of operation and sequencing of events within the theatre Slim illustrated a clear concept of the relationship between events in terms of time, space and resources. What Slim lacked in resources he made up for in improvisation, the use of surprise and the exploitation of air power. When the initiative passed to him after the battle of Imphal he exerted continuous pressure on the enemy, never allowing them to recover from one blow before he delivered the next. He also displayed the ability to exploit presented opportunities, such as diverting one of his Corps to a different objective when faced with an enemy who, instead of fighting north of the Irrawaddy River and Mandalay, chose to use the Irrawaddy as its main line of defence. By employing the indirect approach he not only deceived the enemy of his intentions, but in taking Meiktila secured the decisive point in the enemy's line of communications with their formations around Mandalay and west along the Irrawaddy.⁴³ Ultimately Slim's successful employment of the operational art

⁴² Slim, p.347.

⁴³ *ibid.* p.457.

reflects the requirement for meticulous operational and logistic planning, underpinned by the application of a command and control process appropriate to the campaign.

Schwarzkopf's offensive campaign plan was structured to defeat Iraq's operational centre of gravity, Saddam Hussein's elite Republican Guard,⁴⁴ through a series of decisive points.⁴⁵ Schwarzkopf planned to sequence⁴⁶ his campaign against Iraq's critical vulnerabilities,⁴⁷ using Warden's concentric rings as a framework. First, attacks against Iraq's C³I network were conducted to dislocate Hussein from commanding his forces, and to gain control of the air in the theatre of operations. Interdiction strikes were then mounted against the Iraqi's lines of communications, and rear echelons in Kuwait, in order to dislocate the defensive positions, prior to the ground offensive against the centre of gravity. Several key areas of Schwarzkopf's operational plan, particularly in relation to the successful air campaign using Warden's concentric rings, have been discussed in other chapters and continue to provide a doctrinal framework for campaign planning.

By way of providing a balance, an area of weakness in his overall campaign plan will be addressed here – the failure to destroy the selected operational level centre of gravity. Schwarzkopf's concept was to launch a direct ground offensive on Iraqi forces in Kuwait, and simultaneously to conduct an indirect 'left flanking' manoeuvre to the west with XVIII and XII Corps to cut-off the Republican Guard and destroy it. Schwarzkopf's plan relied on the Iraqis in Kuwait fighting a determined defensive battle that would give the left flanking manoeuvre time to establish itself. However, the relative ease at which the surprise Iraqi attack on Al Khafji was repulsed by coalition forces, could have resulted in a reassessment of this manoeuvre. Instead, the speed with which Iraq capitulated resulted in the flanking force being physically unable to travel the distance required, in the time available, to complete their task.⁴⁸ By not amending his plan once Iraq's ability to resist

⁴⁴ Gary Waters, Gulf Lesson One - The Value of Air Power, Air Power Studies Centre, Canberra, 1992, p.51.

⁴⁵ United Kingdom Doctrine for Joint and Combined Operations defines decisive points as those actions, the successful completion of which are preconditions to the elimination of the enemy's centre of gravity.

⁴⁶ ADFP 6, Operations, p.3-2.

⁴⁷ ADFP 6 defines critical vulnerabilities as those components that are critical to an opponent's plan. Their removal causes an opponent to change their plan and, if exploited, provides the opportunity to dislocate, disrupt and eventually defeat them.

⁴⁸ Peter Petre, & General H. Norman Schwarzkopf, It Doesn't Take a Hero, New York: Bantam Books, 1992, p.355.

was shown to be limited, the coalition failed to achieve a cut-off and most of the Republican Guard escaped.⁴⁹

Operational command and control involves the exercise of authority and direction by the theatre commander over assigned forces in the accomplishment of the mission.⁵⁰ The successful conduct of operations is dependent on the skilful and timely positioning of forces operating under a clearly defined yet flexible command and control process.

Compared with the combat forces used in other theatres those used in Burma were not large. Despite this fact Slim's eighteen divisions, including Stillwell's Chinese, fought on a front of seven hundred miles, in four groups, separated by great distances and with no lateral communications. Accordingly, Slim's formations were required to act with as much freedom as armies in other theatres. In aiming to exploit presented opportunities, whilst achieving a faster decision making cycle than the Japanese, Slim adopted a decentralised approach to control. Slim's use of directive control was based on the belief that operational plans rarely remain viable once battle is joined.

In applying this approach Slim developed appropriate measures to ensure that he could successfully implement and monitor his campaign plans. In order to guarantee that his intent was clear Slim would personally take the Operation Order to his forward commanders prior to the commencement of each phase.⁵¹ However, due to the nature of his theatre, he believed in giving his commanders a degree of latitude to work out their own plans in order to achieve what they knew as the Army Commander's intention.⁵² This approach was illustrated in the successful crossings of the Irrawaddy by the Fourteenth Army in 1944. This phase involved 33 Corps drawing the Japanese forces to the defence of Mandalay whilst 4 Corps secretly moved up the Gangaw Valley prior to striking Meiktila. Once Slim had made his intentions clear he left his corps commanders to prepare and implement their plans. Slim's application of this control approach reflects the requirement

⁴⁹ Michael Gordon, & General Bernard E. Trainor, The Generals' War: The Inside Story of the Conflict in the Gulf, First Edition, New York: Little, Brown and Company, 1995, p.310.

⁵⁰ ADFP 6, Operations, p.4-5.

⁵¹ Slim, p.312.

⁵² *ibid.* p.541.

for a large degree of decentralisation, through what we now call directive control, in order to achieve rapid action in fluid and dispersed operations. Ultimately this method requires in an operational level commander a flexibility of mind, confidence in his subordinates and the ability to make his intentions clear throughout a campaign.

Schwarzkopf adopted a centralised planning philosophy for the Gulf War, consistent with the need to synchronize the targeting of Iraqi vital points as a precursor to the ground offensive. Once the ground war commenced, his preference was for decentralised execution in order to give his fighting units the freedom to fight in their own manner, as long as they conformed to the overall campaign goals and strategies.⁵³ However, the ease with which the Marines broke through the Iraqi defences, contrasted with the inaction demonstrated by VII Corps and the pan-Arab Corps, caused Schwarzkopf to adopt a more direct command approach. The rates of advance of the separate Corps caused him to remark: 'I began to feel as if I were a trying to drive a wagon pulled by racehorses and mules'.⁵⁴ Schwarzkopf soon realised that not only had the campaign shifted from a deliberate attack to a pursuit, but that some of his commanders did not possess the necessary agility to react to the new circumstances. The requirement to intervene at this point demonstrates that the operational campaign commander needs to possess the necessary situational awareness and command support systems to be able to influence the campaign if and when necessary.

A number of commentators have noted Schwarzkopf's reluctance to intervene in single service rivalry. This aversion was particularly evident as the tactical commanders prepared for the ground war. General Horner, for example, was content to employ the air assets to prosecute strategic targets in Iraq, while the Army and the Marines believed their targets in the battle area should have had priority over the strategic bombing campaign in order to 'soften' Iraqi front-line forces in Kuwait in preparation for the ground offensive.⁵⁵ Unity of effort could have been enhanced if Schwarzkopf had exercised greater centralised control in this area, or insisted upon a more 'joint' approach, rather than expect individual

⁵³ Bernard Trainor, LtGen US Marine Corps (Rtd), Schwarzkopf the General, Proceedings, May 1994, p.110.

⁵⁴ Peter Petre, & General H. Norman Schwarzkopf, It Doesn't Take a Hero, New York: Bantam Books, 1992, p.529.

⁵⁵ Michael Gordon, & General Bernard E. Trainor, The Generals' War: The Inside Story of the Conflict in the Gulf, First Edition, New York: Little, Brown and Company, 1995, p.310.

commanders to work out their differences among themselves.⁵⁶ However, General De la Billiere, the Senior British Commander, observes that this non-intervention may have been engineered by Schwarzkopf to allow all options to be considered prior to his deciding the best course to be adopted for the land assault. Overall, Schwarzkopf's centralised planning approach in the preliminary phases and his exercise of directive control, with the ability to intervene as and when necessary, during the ground offensive provides a useful framework for studying command at the operational level.

The operational commander's responsibilities and challenges have increased over time. As he goes about planning and directing large-scale manoeuvre warfare on the modern battlefield he must balance the demands of strategic objectives with the capabilities of the tactical level and deal with a multitude of real-time problems in the conduct of the campaign. The operational level of conflict demands a diverse set of disciplines, including; political input, military doctrine, laws of armed conflict, technology, personnel and organisational management and logistics. The skill in employing military force to attain the strategic goals through the design, organisation, sequencing and direction of a campaign is the basis of operational art. General Slim and General Schwarzkopf demonstrated these skills during the Burma Campaign and the Gulf War in applying operational art to the respective operational objectives in support of the strategic end state.

Slim's initial experiences in the Burma campaign, during the disastrous allied retreat from Burma, provides some key lessons for the handling of a campaign. The lack of a clear strategic end, coupled with inept command and control processes, prevented the operational level commanders from translating strategy into effective operational, and ultimately tactical action. It was not until a Supreme Headquarters capable of providing clear strategic guidance was established that Slim was able to identify the military conditions that constituted his given strategic objective.

In their relations with superior commanders, both Slim and Schwarzkopf demonstrated that as a campaign develops the operational level commander should keep

⁵⁶ *ibid.*, p.320.

them informed of their actions, problems and future plans. Ultimately these imperatives provide the conditions necessary for the campaign commander to successfully apply operational art in a given theatre.

In applying operational art to defeat the Japanese armies in Burma and the Iraqi forces in Kuwait, Slim and Schwarzkopf illustrate the requirement for meticulous operational and logistic planning, underpinned by the application of command and control processes appropriate to the campaign. By combining the direct approach in the Imphal/Kohima battle with the indirect approach in the taking of Meiktila, Slim skilfully employed the available military forces and assets, through the design, organisation, sequencing and direction of major operations, and the overall campaign, in order to achieve set strategic objectives. Further, his ability to exploit presented opportunities was demonstrated when he diverted one of his Corps to secure Meiktila, the critical point in the Japanese lines of communications. This operation also illustrates the requirement to give subordinate commanders the degree of latitude necessary to work out their own plans in order to achieve what they knew as the Army Commander's intention. Slim's application of this control approach throughout the campaign demonstrates the need to exercise a large degree of decentralisation, through directive control, in order to achieve rapid action in fluid and dispersed operations.

Slim's success in the Burma Campaign and Schwarzkopf's in the Gulf War demonstrates the requirement for clear strategic guidance, coupled with the ability of an operational level commander to command, control and sustain the sequence of objectives, in order to reach the desired end state. However, in order to exploit the available resources in both theatres it was imperative that both commanders had a detailed knowledge and understanding of warfighting theory, technologies and doctrine. The following chapters will analyse the development and application of three skills which commanders at the operational level must master in order to successfully apply operational art: air power theory, military technology and manoeuvre theory.

CHAPTER THREE

AIR POWER DEVELOPMENT AND ITS RELEVANCE TO CONTEMPORARY WARFARE AND THE OPERATIONAL LEVEL

'In wars to come the decisive field of action is the aerial field.'

Giulio Douhet, 1921

'Air Power has been the decisive arm so far, and I expect it will be the decisive arm through to the end of the campaign, even if ground forces and amphibious forces are added to that equation.'

Colin Powell, 21 February 1991

The early air power theorists, such as Douhet, Mitchell, Wever and Trenchard, maintained that air power, unbridled and unaided, would be decisive, and in turn would make protracted wars obsolete. Control of the air, and its use to destroy the enemy's war making potential, were deemed to be its principal missions, with air support for surface forces secondary. The following paragraphs examine and test a number of early theories against historical examples prior to commenting on the applicability of air power theory to modern warfare.

General Gullio Douhet began his military career as an artillery officer in the Italian Army demonstrating an interest in technology and its application to the military. As early as 1910 Douhet began to write about air power, at first 'cautiously, almost mockingly' and then with a fervent passion. His major work on air power, The Command of the Air, outlined his concept for the use of air power and its effect on the nature of future warfare. Douhet's message was simple: an independent air force consisting of long-range bombers were capable of bypassing an enemy's defences, causing such damage and havoc as to

force the opposing side to seek an immediate surrender.⁵⁷ In supporting this concept the key tenets of his work were: there would be no distinction between combatants and non-combatants; the employment of a first strike against enemy centres of population, government and industry was a necessity to cause the enemy to quickly sue for peace; and that the maintenance of an independent air force with a long range bomber fleet at a constant state of readiness was needed to guarantee a nations security.⁵⁸ In short he believed that air power would provide the decisive weapon in all future wars. The primary criticism of The Command of the Air is that the supporting evidence is lacking in any depth. As a text for classical strategists it hardly compares in complexity and subtlety with Clausewitz's On War. Although in its defence it was not designed to be a doctrine manual or theoretical treatise, only a conceptual expression of belief.

Whilst Douhet was espousing his theory in Italy, Marshall of the Royal Air Force Sir Hugh Trenchard was developing a similar philosophy. Major-General Trenchard received command of the Independent Air Force in April 1918. Trenchard endorsed a philosophy of attacking the source, rather than the enemy's strength, stating that the RAF should 'pursue a relentless offensive by bombing the enemy's country, destroying his sources of supply of aircraft and engines and breaking the morale of his people.'⁵⁹ He differed from Douhet, however, in claiming that indiscriminate bombing of civilian populations should never be allowed and in favouring tactical airpower through interdiction and direct ground attack.

Trenchard benefited from practical experience in the application of air power through the campaigns in the Middle-East and the North-West Frontier. The campaign in Iraq made him realise, however, that air power alone would not guarantee a military victory. It required the support of ground forces. During the 1920s Trenchard encouraged the development of a strategic bomber force, based on the belief that bombing was the key to strategic victory. He quantified this belief by stating that the 'moral effect of bombing stands undoubtedly to the material effect in a proportion of twenty to one.'⁶⁰

⁵⁷ Serge, C.G. (1992) 'Giulio Douhet: Strategist, Theorist, Prophet?', The Journal of Strategic Studies, Vol.15, No.3, September 1992, p.35.

⁵⁸ Edward Warner, 'Douhet, Mitchell, Seversky: Theories of Air Warfare': Makers of Strategy and Military Thought from Machiavelli to Hitler, New Jersey: Princeton University Press, 1971, p.630.

⁵⁹ M.J. Armitage and R.A. Mason, Air Power in the Nuclear Age, 1945-84: Theory and Practice. London: MacMillan, 1982, p.5.

⁶⁰ David Divine, The Broken Wing. A Study in the British Exercise of Air Power, London: Hutchinson, 1966, p.162.

However, Trenchard's focus on a predominantly bomber force saw the RAF unable to provide any meaningful contribution in the Battle of France in 1940. Overall Trenchard believed in the importance of air power but not at the expense of land forces, if only because he saw the latter's requirement to occupy a defeated nation.

In the same year that Douhet was publishing his The Command of the Air, General William Mitchell of the US Army Air Corps organised an air power demonstration involving the sinking of the 'unsinkable' dreadnought *Ostfriesland* by aircraft of the Air Corps.⁶¹ Like Douhet, Mitchell was a passionate advocate of air power who believed that strategic bombing would bring about a rapid end to a war and that the 'hostile army in the field is a false objective, and the real objectives are the vital centres'.⁶²

However, unlike Douhet or Trenchard, Mitchell's combat experience in WWI had taught him 'that the only successful defence against an aerial attack is to whip the enemy's air forces in air battles'. Mitchell proposed a force made up of light, medium and heavy bombers, and fighters. But of greatest importance was the need for the centralised co-ordination of all air assets under the control of an autonomous air force command.⁶³ He saw the need for combined operations and the imperative for air supremacy prior to success in a campaign.

Alexander de Seversky, the ex-Russian Army pilot and aircraft designer is often quoted as being an early air power theorist. However, as pointed out by MacIssac, he 'assumes a greater place as a theorist than is warranted'.⁶⁴ His prominence was brought about more by his book, Victory Through Air Power being adapted as a wartime Disney propaganda cartoon than the content of his work. Seversky held to the belief that as the striking range and power of aircraft increased, the army and navy would merely 'have to play a waiting role until the bomber had pounded an enemy into submission'.⁶⁵ Seversky's vision was flawed, as early as 1945, by his overestimation of technical advances and a misunderstanding of the defensive power of short range fighters.

⁶¹ A.H. Narracott, Air Power in War, London: Frederick Muller, 1945, p.25.

⁶² Warner, p.499.

⁶³ David MacIssac, Voices from the Central Blue: Makers of Strategy and Military Thought from Machiavelli to Hitler, New Jersey, Princeton University Press 1986, p.630.

⁶⁴ *ibid*, p.631.

⁶⁵ Narracott, p.29.

General Walter Wever, Chief of Staff of the Luftwaffe until his death in an air crash in 1936, enunciated the 'clearest vision of how air power would be used in the Second World War.'⁶⁶ Like Douhet, Trenchard and Mitchell, Wever held that air power could 'carry the war from the beginning against the enemy's homeland [and to] attack his military power and the morale of the enemy's population to the root'.⁶⁷ However, unlike the other theorists he could see that air power was only part of the national strategy, not the single ultimate strategic weapon. He saw the need for an air force at the operational level of war in order to initially obtain air superiority within the theatre. Once air superiority was achieved he advocated that air power be employed to either support land or maritime forces, or the navy, or be tasked with attacks against the sources of support for the enemy's military forces and its industrial capacity. The strategy and the priority of tasking for the air force, he stated, could only be determined within the framework of the overall military situation.⁶⁸ Wever differed from all the other air power theorists in that he could identify the need for the employment of airpower at the tactical, operational and strategic level, and that its employment was a component of the national strategy, not the only strategy.

History has shown that the theories which the early air power theorists held were excessively optimistic. World War II demonstrated their over-estimation of the impact bombing would have on national morale, whilst developments in radar and air defence systems consistently prevented the bomber from delivering the predicted decisive blow. The resulting situation, in which offensive and defensive air vied for dominance, prevented either side from exploiting the anticipated advantages associated with command of the air. Despite these shortfalls, the ultimate example of offensive air action in World War Two, demonstrated by the two atomic attacks on Japan, appeared to validate Douhet's argument that air power was the ultimate strategic weapon. However, in achieving the outcome predicted by Douhet⁶⁹ the consequences of exploiting air power against population centres in this manner made its use prohibitive.

Since World War II air power strategy has had to adapt to the conditions associated with limited warfare. Korea and Vietnam demonstrated that the full potential of

⁶⁶ Williamson Murray, 'The Luftwaffe Before the Second World War: A Mission, A Strategy?', The Journal of Strategic Studies, Vol 4, No.3, September 1981, p.86.

⁶⁷ ibid., p.86.

⁶⁸ ibid., p.87.

⁶⁹ Giulio Douhet, The Command of the Air, Washington: Office of Air Force History, 1983. p.107.

air power could not be exploited if the political will to use it correctly was missing. This is equally true of land and sea power. Vietnam further illustrated that protracted guerrilla warfare, particularly against an enemy which has not developed the centres of gravity associated with successful strategic bombing campaigns, removes the ability for air power strategy to achieve a rapid decision.⁷⁰ Despite these restrictions the campaigns in Korea, Malaya, Vietnam and the Falklands reflected the continuing need for Western Forces to achieve a degree of air control for their land and sea operations. Moreover, the successful air power strategies used by the Israelis in 1967 and the Indians in 1971, in order to destroy the enemy's ability to command the air, isolate his ground forces and demoralise his civilian population, proved its continuing applicability to contemporary warfare. As a result of these experiences the earlier theories and general air strategies of World War II have evolved into a general air power strategy⁷¹ embodied in three inter-related campaigns; Control of the Air, Air Strike and Air Support to Combat Forces.

The Gulf War in 1991 provided an opportunity to test the applicability of this general air power strategy to contemporary warfare within a campaign. The first campaign, control of the air, allowed the Coalition to operate at a time and place of their choosing, while denying such freedom to the Iraqis. The second, air strike, involved strategic attacks by aircraft, accurate ballistic missiles and precision guided missiles against the enemy's war-making capacity. The third campaign, air support for combat forces, complemented the combat power of sea and land power forces in terms of firepower, mobility, manoeuvre and sustainability.⁷² Overall, the success of the Coalition largely derived from its successful air power strategy. By contrast the Iraqis found that their formidable land power could in no way substitute for their lack of air power.

Despite conducting a successful air strategy, however, the Gulf War demonstrated some political and social factors which will continue to shape the use of airpower. For example, rather than attacking population centres in order to shatter civilian morale, this outcome is sought by indirectly attacking strategic targets. This requirement for a clear differentiation between civilians and combatants results from the requirement to abide by

⁷⁰ Colonel Phillip S. Meilinger, USAF, '10 Propositions Regarding Air Power', Air Power Studies Centre Paper No. 36, Canberra: Air Power Studies Centre, September 1995, p.22.

⁷¹ AAP 1000, Royal Australian Air Force Air Power Manual, Canberra: RAAF Base Fairbairn, 1990, p.41.

⁷² *ibid.*, pp. 32-34.

international law and imposed rules of engagement. These restrictions on civilian targets must be strictly applied in order to retain foreign and domestic support for military action - a factor further complicated by the ability of the media to transmit real time pictures around the world. However, despite this imposed limitation on air power strategy, the increased precision and stealth now afforded to air power has arguably increased the ability of a nation to fight without resorting to clashes between major armies or the destructive outcome of a nuclear war. Kosovo demonstrated that an air campaign that is allowed to achieve its objectives can achieve conclusive results.

The requirement to remove a threatening capability with minimal collateral damage underpins the use of military power as an element of national power in contemporary warfare. The intrusion of media coverage into modern warfare has additionally caused casualties, particularly civilian, to become a new centre of gravity for most warring nations. This trend will undoubtedly result in greater pressure on decision-makers to avoid direct clashes between large ground forces. Accordingly, the precise nature of air power clearly demonstrates the continuing utility of air power strategy as a useful element of a nation's overall strategy in contemporary warfare. However, air power strategy is only valuable if the political will to take advantage of its potential is available. United Nations aircraft can easily dominate the skies over Bosnia and Somalia, for example, but it is redundant if that air superiority cannot be exploited. Therefore, in line with continuing political, social, technological and military doctrinal and organisational changes, the elements of air power strategy will require continuous revision, if they are to remain relevant to contemporary warfare.

Alan Stephens, in his paper 'High Noon of Air Power',⁷³ has identified the current transition from the 'high noon' of traditional air power to a future of aerospace power. He advocates that in order to remain relevant air power requires significant organisational and doctrinal changes. There has been a move away from the 'how to' of air power doctrine to explaining the 'what it can do' and 'why it is a decisive force in contemporary warfare'. The RAAF has adopted five core capabilities: control of the air, precision strike, precision engagement, rapid force projection and information exploitation.⁷⁴ The USAF has identified six core competencies; air and space superiority, global attack, rapid global

⁷³ Alan Stephens, 'High Noon of Air Power', Canberra: RAAF Base Fairbairn, 1990, p.7.

⁷⁴ *ibid.*, p.10.

mobility, precision engagement, information superiority and agile combat support.⁷⁵ By this paradigm shift from platform specific to generic capabilities airpower doctrine now provides a critical input to joint and operational level doctrine. Further, by identifying the application of precision engagement and information exploitation as key components in the sequencing and orchestration of campaigns the relevance of air power to modern warfare is secure.

The early air power strategists developed a school of strategic thought which sought to avoid the costly war of attrition characterised by World War 1. They all stressed that strategic bombing against the enemy's centre of gravity could serve national objectives in a decisive and cost effective manner. World War II demonstrated, however, that whilst air power in isolation did not prove decisive, in combination with armour it transformed the pattern of war. Hiroshima and Nagasaki provided some evidence that air power could provide the ultimate strategic weapon, although the consequences of these raids made its use prohibitive.

The utility of air power in a joint and combined environment has been demonstrated most recently in the application of air campaigns in the Gulf War and in Kosovo. Through successfully executing Warden's concentric rings approach, in which the enemy's war-making and warfighting capabilities are sequentially destroyed, airpower achieved the pre-conditions necessary for a virtually unopposed invasion by the respective land power forces.

The ability of aerial bombardment to target an enemy's critical vulnerabilities and centre of gravity demonstrates the continuing relevance of air power strategy to contemporary warfare. In particular, the capacity of air power to remove a threatening capability with minimal collateral damage could result in greater pressure on decision-makers to fight at a distance in order to avoid direct clashes between large ground forces. However, technological, political, social and military changes may require continuous revision of its application. The development of the operational level of war, for example, with its focus on sequencing operations and applying a manoeuvrist approach against critical vulnerabilities has required a re-definition of the core air power capabilities. Furthermore, the requirement to exploit information in order to gain the knowledge and

⁷⁵ *ibid.*, p.12.

decision edge has added another dimension to air power. Ultimately, the ability for airpower to provide the cutting edge in contemporary warfare hinges on the political will of nations to exploit its full potential.

This chapter has demonstrated that whilst the introduction of an air dimension to a particular theatre of operations had an immediate impact, it required the development of an airpower doctrine, which integrated it with the other environments, before it could realise its full potential. The next chapter will continue this theme in taking a broader look at technology to demonstrate how it has been utilised in past campaigns and how it could influence future ones.

CHAPTER FOUR

THE INFLUENCE OF TECHNOLOGY

'Technology is a major factor in determining the scope of military operations, the character of military threats, and the consequences of resorting to the use of force. Technology, in other words, is a major variable affecting the instruments available to political actors...'

Buzan 1987

Innovations in technology and doctrine are generally the harbingers of dramatic changes in warfare, which have collectively become known as Revolutions in Military Affairs. New technologies have constantly been developed into military systems for use within the prevailing battle space. However, these systems have had little impact unless a nation's military organisation has been able to incorporate them into coherent doctrines, matched by suitable capabilities, in order to exploit their full potential. An example of such an RMA was the development of systems such as the tank, airplane and radio, which when coupled with highly mobile and effective air and land forces, brought about dramatic results in the early part of World War II for the Germans.⁷⁶ In the same vein the Gulf War provided an insight into the military potential that current emerging technologies could provide. The next two chapters will consider the impact technology and innovative doctrine have had on warfare. In considering the influence of technology first, this chapter will consider the full spectrum of conflict and comment on how recent developments in information technology could be harnessed by the ADF and NZDF.

The ability to use technological innovation has been a crucial element in determining the outcome of campaigns throughout the history of conflict. The advantage has passed from the defender to the attacker in a cyclical manner, with increased likelihood of success gained by the commander or nation able to appropriately utilise technology and

⁷⁶ James R. Fitzsimonds, & Jan M. Van Tol, Revolutions in Military Affairs. The Joint Force Quarterly, No 4, Spring 1994, p.25.

shape a campaign accordingly. Despite the importance of military technology, particularly in the era following the Napoleonic Wars and the Industrial Revolution, it did not become a key aspect of military theory until the 20th century. Indeed, the consideration of technology is notable by its absence in the works of both Clausewitz and Jomini.

Van Creveld⁷⁷ has correctly identified that between 1500 and 1700 the development of cannon went hand in hand with that of fortifications and the enhancement of naval guns and ships' armour occurred at an equivalent rate between 1800 and 1945. Throughout this century, development of tanks and anti-tank weapons, aircraft and anti-aircraft systems, and radar with electronic counter measures has continued, with neither the weapons platform nor anti-platform system gaining long term ascendancy. Few technologies remain uncountered for long periods, and the perception that a force has such an advantage when an enemy has in fact countered it can lead to disaster in war. In weighing up the costs and benefits of a new technology, not only must the advantage offered be considered, but also the expected duration of such advantage.

The Yom Kippur War of October 1973 illustrates the transitory nature of technological advantage in the modern era. Confident after the successful employment of armour and airpower in combination during the Six Day War, the first Israeli tank brigade to meet Egyptian forces on the Eastern side of the Suez Canal advanced boldly in a cavalry style charge. Met by a well sited barrier of anti-tank weapons, the brigade lost 77 tanks, three quarters of its total strength.⁷⁸ The decisiveness of this victory led many observers to declare that, in the anti-tank guided weapon (ATGW), the tank had met its match and was no longer a viable weapon platform. This ascendancy was short-lived, however, and was countered not by a new weapon, but by a change in tactics. When counter-attacking two weeks later, the Israelis returned to the combined arms tactics used successfully during World War II. Air power and armoured forces, supported by mechanised infantry and artillery, proved effective against the Egyptian SAMs and anti-tank weapons. Good command and tactics, utilising the platforms available rather than searching for advanced technological solutions, were to prove decisive.

⁷⁷ Martin Van Creveld, *Technology and War*, New York: Free Press, 1989, p.77.

⁷⁸ M. Metcalf and D. Miller, '*Ground Warfare*', in *the Conventional Dimension of War Since 1945*, Geelong: Deakin University, 1990, p.68.

Warfare since 1945 has been conducted, in the main, by small revolutionary forces involved in low intensity conflict. Small groups of dispersed irregular forces that readily blended into the geographic and social surroundings characterised campaigns such as Vietnam, Afghanistan and Somalia. Unconventional forces were able to avoid decisive battle, and as such, target density was far less than in conventional campaigns such as the Gulf War.

High technology weapons have frequently proved to be of limited utility in such warfare. Low intensity conflict has generally been waged in complex environments, such as cities and jungles, where surveillance and target acquisition systems that are appropriate to conventional battlespace are often ineffective. Limited by both range and the problem of collateral damage, the superior firepower of high technology forces cannot be used to best effect. Faced by adversaries deploying weapons of great destructive power and accuracy, non-conventional forces have effectively nullified these systems through the use of unconventional tactics.

In the low intensity colonial conflicts since 1945, except Malaya, technologically advanced colonial powers operating from comparatively huge resource bases have not achieved their aims. In both Vietnam and Afghanistan, the superpowers, armed with the latest military technology, were unable to defeat their poorly equipped enemies. Although technology was decisive in the few conventional style battles fought during these campaigns, the ability of revolutionaries to operate in environments suited to their own tactics and weapons reduced the effectiveness of the advanced weapons deployed. These conflicts highlighted the importance of other key influences on warfare; morale, national and political will, effective leadership and the use of technologies appropriate to the theatre proved more decisive than the mere ownership of advanced systems.

Prior to industrialisation, although other methods such as crop burning and sieges were used, the strategy of the decisive battle provided a model for conventional warfare and the destruction of the enemy force's centre of gravity. The industrial age, and advent of more destructive weapons and improved communications and better transport saw the military objectives expand to include the war making capability of a nation, such as raw materials and manufacturing centres. Moreover, the decisive battle was replaced by a series of battles fought over large geographical areas. In other words the concept of a decisive

battle being fought in a specific geographical area was replaced by campaigns fought within a theatre. The American Civil War, for example, involved the North waging war against the South's territory, resources and most critically its will. Both World Wars continued the industrial age model, in particular the concept of mass production and sequential campaigns. The Gulf War, however, provided an insight into the potential changes information age technologies will bring to future conventional conflict.

In the Gulf War the coalition forces were able to gain key information, and, through superior decision making processes and systems, achieve decisive results. The coalition's success demonstrated that dominating the information sphere will become the centre of gravity of future conflicts between modern forces. However, the Gulf War did not demonstrate that information warfare will make the physical destruction of enemy targets unnecessary. Conflicts, at least in the mid term, will not suddenly become bloodless: instead information managed correctly will provide the necessary knowledge for rapid and decisive action against decisive points.

The Gulf War illustrated that weapon systems that offer sustainable technological advantage, and are appropriate to the environment in which they are used, can influence campaign success. Certainly the Gulf War established the effectiveness of modern weapons in a target rich environment. However, it is important to recognise that no matter how superior a technology may be, it is of no utility of its own accord. Commanders must have reliable doctrine and apply suitable tactics, techniques and procedures; troops must be trained and motivated; logistic support must sustain the force and a nation must have the will to wage war. Without these factors, technology will serve little purpose.

Increased levels of technology have highlighted the importance of logistic support to any operation. The modern weapon system, and thus the modern war, requires a system of logistic support that is far larger and more complex than that previously used. Supply of vast quantities of fuels, advanced munitions that require special handling, and the repair and maintenance requirements of modern weapons place an ever increasing burden on the logistic base. Success in future wars will be as dependent upon the weapon support system as the weapon itself.

Rather than supporting the case that technology is a panacea, the Second Gulf War highlighted the fact that victory in war is dependent upon many factors, of which technology is but one. Key among these factors are command and the application of operational art. General Schwarzkopf's plan to reduce Iraq's command and control infrastructure and lines of communications, followed by his attack along lines of least expectation and against lines of least resistance (essentially using the inland approach to Kuwait rather than the anticipated amphibious assault), contributed to the swift land battle victory. Underpinning this plan, however, was the intelligent use of available technologies, such as precision guided munitions, C4I systems, and missile defences. Successful application of operational art was synonymous with the successful exploitation of available technology.

The key to exploiting this technological potential is in the adoption of innovative doctrines and organisations. Defence forces need to address ways to integrate current advances in technology, such as global information systems and precision weapons, with appropriate doctrines and organisations, in order to maximise the RMA. In 1940 the Germans succeeded, through experimentation, in combining the opportunities provided by the superior attack aircraft, improved communications and increasingly mobile armour to produce a combined effect out of all proportion to the single components. In the same vein, intelligence, surveillance and target acquisition and reconnaissance systems (ISTAR) linked to long range indirect fires and air or ground mobility forces will permit the modern commander to conduct parallel operations using decisive and rapid deep manoeuvre against vital points throughout the theatre.

Whilst the opportunities information age technologies, combined with innovative doctrine, provide modern defence forces it should be recognised, however, that potential adversaries will undoubtedly seek ways to minimise technological advantages. Future conflicts may not be waged by conventional tanks in desert terrain but in urban areas against guerrillas or terrorists applying asymmetric methods such as computer, biological or mimetic warfare. Chemical agents being released into subway air vents, an attack by a computer hacker on a financial system, or guerrilla warfare aimed at a nation's political will are plausible visions of future asymmetrical conflict. Accordingly, whilst the Gulf war provided defence forces with a vision of the possibilities information age technologies provide in a conventional conflict we must also prepare for asymmetric threats. Otherwise

we may fall into the often-repeated trap of preparing to fight the last war, rather than the next one, better.

The current RMA⁷⁹ is a conceptual framework for technology's integration into warfare. Writers such as J. Harvey postulate that there will be fundamental shifts in the conduct of war as a result of new military technologies, and changes in doctrine and organisational concepts.⁸⁰ Moreover, it is argued that the changes associated with the RMA, by their rapidity and magnitude, will introduce third wave warfare. Against this background the requirement for Australia and New Zealand to exploit the current RMA is driven by the need to take advantage of associated benefits, such as improvements in military effectiveness and combat potential, in an environment where the planning and development of our defence must be pursued in the most cost-effective and self-reliant manner. Further, the shift of the regional military balance against Australia and New Zealand in the early 1990s⁸¹ followed closely by the instability associated with the economic crisis in Asia⁸² require the adoption of smarter ways of conducting warfare. A critical element in our ability to take advantage of information age technologies is a sound doctrine, which in its purest form describes the preferred and workable method of employment of force and influences the thinking and actions at every level of military activity.⁸³

As battlefields become dominated by electronic communications, computers and weaponry, logic dictates that our doctrine should focus on disrupting and defeating an enemy, rather than destroying it. This approach is consistent in an environment in which, whilst both sides could have access to similar technology, the ADF and NZDF will aim to achieve an operational tempo faster than an opponent.

⁷⁹ Within the NZDF the current RMA is interpreted as the military application of the information revolution. Within the ADF the current RMA is interpreted as the combination of "Information Age" technologies and appropriate doctrine, training and organisation that will render existing methods of conducting warfare obsolete. J. Harvey, *The RAAF and the Revolution in Military Affairs*, *Journal of the Royal United Services Institute*, 16 (1), Nov 1995, p.23.

⁸⁰ P.F. Leahy, *The Future Battlefield*, Queenscliff, Victoria: Australian Command and Staff College, 1995, p.2.

⁸¹ This shift was based on a declining defence budget and technological edge relative to our neighbours.

⁸² The economic crisis in Asia has been accompanied by increased tensions between Singapore and Malaysia, nuclear weapon proliferation in India and Pakistan, increasing tension on the Korean Peninsular and conflicting claims to the Spratly Islands.

⁸³ ADFP 1, *Doctrine*, Canberra: Australian Defence Force Headquarters, 1993, p.1-1.

If the current manoeuvre warfare doctrine's premise of exploiting an enemy's critical vulnerabilities is matched with appropriate capabilities that utilise information warfare, precision strike and rapid manoeuvre, the ADF and NZDF can achieve effective force multipliers. Our operational concepts need to include large scale use of electronic warfare; air interdiction and rapid bold manoeuvre aimed, not at enemy defensive positions, but at command and communication systems, supply bases, aircraft and maritime bases, seats of Government and other critical vulnerabilities.

The application of manoeuvre warfare principles by the ADF and NZDF relies on the development of smaller and independent joint forces capable of providing the desired impact on an opponent's critical vulnerabilities and centre of gravity, consistent with the strategic and operational commander's intent. Air power, for example, will not succeed in isolation. An opponent can contain, and through outflanking, defeat a single dimensional threat. Accordingly air, land and sea operations must be integrated in order to defeat an enemy's war making capacity. Rather than the traditional linear battlefields with clearly defined fronts the future battlefield will involve small, dispersed but networked units operating throughout the battlespace in a series of parallel operations towards common goals.

Application pull rather than technology push must guide our future capability requirements. Emphasis should be placed on situational awareness, effective command and control, mobility and protection. All elements require information and communications systems which connect them with friendly forces within the battlespace whilst preventing access to the same information by an opponent. To be successful the quantitatively small ADF and NZDF will require high quality, diverse joint forces capable of offering joint commanders a range of force application options.

Information technology could also change how we approach the levels of war. Current ADF and NZDF doctrine has divided conflict into three levels - the strategic, operational and tactical levels of war.⁸⁴ These levels of conflict enable a commander to visualise a logical flow of operations, allocate resources and assign tasks to the appropriate command. Developments in information technology may result in an increased overlap of all three and this reality would represent a larger interaction of the operational level with

⁸⁴ ADFP 6, Operations, Canberra: Australian Defence Force Headquarters, 1998, p.3-2.

both strategy and tactics.⁸⁵ In certain circumstances all three levels may be both integrated and simultaneous. Accordingly, the operational commander will be challenged to recognise and exploit such opportunities, whilst taking greater account of the impact current or planned operations will have on strategy. The ADF and NZDF needs to recognise the impact information warfare will have on the vertical military command continuum, in order to exploit the potential for increased decisiveness on the modern battlefield.

In addition to compressing the vertical dimension of war information warfare will add a horizontal dimension that involves a closer connection between the levels of conflict and the political, economic and psychological elements of national strategy.⁸⁶ Information Warfare aims to exploit this multidimensional approach by focusing on the requirement to utilise all elements of information - economic, political, psychological, social and military - when conducting operations. This concept requires a broader doctrinal approach from the ADF and NZDF, including the requirement to utilise attacks on an opponent's telecommunications, financial institutions and world markets as well as military communications in order to defeat him. Additionally, the intrusion of media coverage into modern warfare will result in real time coverage of operations reaching the public and policy makers. This reality could, for example, cause casualties, particularly civilian, to become the new centre of gravity for warring nations. The Vietnam War and UN mission in Somalia demonstrated the vulnerability of the US to CNN pictures of civilian casualties and US servicemen being dragged through the streets of Mogadishu.

Technology is a vital factor in the conduct of modern warfare. Technologies appropriate to the level and style of combat being waged can be decisive force multipliers when combined with good commanders who are supported by well trained and motivated forces and the national will necessary to sustain the war effort. Used in isolation of these factors, however, technology is of little benefit. As Howard⁸⁷ concludes, strategy and war are dependent upon four dimensions, the operational, the logistical, the social, and the technological. To be successful, a strategy must take into account all of these dimensions, but under different circumstances one or another might dominate.

⁸⁵ David. Jablonsky, The Owl of Minerva Flies at Twilight: Doctrinal Change and Continuity and the Revolution in Military Affairs. Carlisle Barracks. P.A: Strategic Studies Institute, US Army War College, 1994, p.30.

⁸⁶ *ibid.*, p.31.

⁸⁷ M. Howard, 'The Forgotten Dimensions of Strategy', Parameters, 1979, p.978.

Some observers argue that the importance of technology has been overstated in recent years, particularly in Western industrialised societies. It has been viewed as a panacea that can provide security against larger forces, whilst limiting the manpower required in combat. Post World War II experience has shown technology to be of limited utility in unconventional or low intensity conflict due to the effective tactics employed by unconventional forces. Their avoidance of decisive engagements and ability to hide in complex geographic and social surroundings has countered many of the benefits of advanced systems.

In the few conventional wars fought since World War II, however, technology has been demonstrated as a key determinant of victory or defeat. Yet even when used in the conditions for which they were designed, some advanced weapon systems have not been decisive. It is the intelligent use of available technologies, coupled with good commanders, operational art, logistics, tactics, morale, training and national and political will that leads to success. No campaign can rely on a single factor, as all are interwoven and dependent upon the others.

Most recently the Gulf War demonstrated the impact of information, and the systems that gather collate and distribute it, will have on future warfare. If we are to exploit the true potential of the available information technology we need to combine our manoeuvre warfare doctrine with small networked joint forces which are capable of conducting quick parallel operations against critical vulnerabilities consistent with the commanders intent. The next chapter will analyse how the manoeuverist approach has developed and, by combining the conclusions from this and previous chapters, recommend a way ahead for the application of operational art within the ADF and NZDF.

CHAPTER FIVE

MANOEUVRE DOCTRINE

A Defence Force's doctrine lies at the heart of its professional competence. As such it is defined as the expressed fundamental principles which guide its actions. Doctrine within the ADF and NZDF has traditionally been based on that developed by its allies and friends. This doctrine reflected the perception that the ADF and NZDF would be involved in positional and attritional warfare alongside more heavily equipped allies. This situation changed with a new defence policy emphasising self reliance. Accordingly, our current doctrine aims to exploit the strengths of a small force which contains quality personnel who are able to effectively employ high technology equipment in a range of scenarios. As such the ADF and NZDF have adopted manoeuvre warfare principles that advocate a focus on the enemy's vulnerabilities, such as lines of communications, rather than terrain objectives. Key to the success of this doctrine is the ability to gain information and be mobile at any time and in any conditions in order to exploit presented opportunities. This chapter will analyse the development of the manoeuvrist approach and then consider how it should be revised in order to exploit information age technologies.

Throughout history professional military officers and civilian scholars have analysed war in an attempt to gain a greater understanding of its many facets. Machiavelli's view was that new military institutions and new methods of warfare were fundamental to the state's very existence. Clausewitz endeavoured to philosophically analyse war, whilst Jomini sought eternally applicable scientific principles for the conduct of War. The catalyst for such analysis has frequently been the development of new methods of warfare, both tactical and technological.

World War I, with its non-decisive attrition warfare on the Western Front, provided such a catalyst. In an attempt to rid mankind of the possibility of another Western Front, many theorists and tacticians sought to develop new methods of warfare that would return manoeuvre, decisiveness and humanity to the battlefield. One such theorist was Basil Liddell Hart, who argued that during World War I the Allies had adopted the classical

Clausewitzian approach, 'namely the destruction of the enemy's armed forces in the main theatre of war'.⁸⁸

Through a study of military history Liddell Hart concluded that a direct attack against the opposing army was unlikely to result in decisive victory, whereas the rarely used 'indirect approach' was a far more successful and economical use of available means. Liddell Hart saw the aims and responsibilities of the commander empowered to seek a military decision as:

...to seek [battle] under the most advantageous circumstances in order to produce the most profitable result. Hence his true aim is not so much to seek battle as to seek a strategic situation so advantageous that if it does not of itself produce the decision, its continuation by a battle is guaranteed to do so. In other words, dislocation is the aim of strategy.⁸⁹

In his work The Decisive Wars of History Liddell Hart contends that in the 27 major wars prior to World War I, only in six of the 240 campaigns was a decisive result obtained by a direct strategic or operational approach to the main army of the enemy. Conversely, the far less frequently used indirect approach resulted in 26 decisive campaigns. Much of his historical work, however, has been criticised as selective historical analysis aimed at supporting preconceived ideas. John Mearsheimer has been a key player in this re-examination of Liddell Hart's work and his subsequent claims to have shaped German military thinking in World War II. In his book Liddell Hart and the Weight of History Meirsheimer states that:

When Liddell Hart discusses the need for a move directed towards the enemy's rear (155) in The Decisive Wars of History, he is not talking about a strike against the vulnerable command and control network that is the essential target of a blitzkrieg but about attacks against an opponent's home front. Specifically, he hoped to use the army to inflict massive punishment on the enemy's civilian population and thus destroy its morale.⁹⁰

The dislocation advocated by Liddell Hart can be achieved by a variety of means, both physical and psychological. Physical dislocation will generally result from a series of actions designed to force the enemy to alter his disposition due to the use of an unexpected

⁸⁸ B. Bond, Liddell Hart: A Study of his Military Thought, London: Cassell, 1977. p.38.

⁸⁹ *ibid* p.154.

⁹⁰ John J. Meirsheimer, Liddell Hart and the Weight of History, London: Brassey's Defence Publishers, 1988, p.91.

approach, threatened division of his force or a threat to his lines of communication and withdrawal routes. Such actions must also be supported by surprise and deception to prevent an opponent from adjusting his forces in a co-ordinated manner in order to counter the new threat. Timing is also critical since the removal of a key component of an opponent's military capability only produces a decisive point if it is critical to their concept of operations. The real power of physical dislocation, however, lies not with the actual physical advantage offered, which by itself can be decisive, but with the psychological effect on the enemy commander, his force or nation.

Psychological dislocation seeks to unbalance the mind of the enemy, principally by making him feel enveloped or compelled to take an action he would not normally consider. A physical attack on the enemy's rear has historically been a key action designed to psychologically dislocate an opponent. Such an action can cut off lines of communication and withdrawal routes, leading to a feeling of entrapment, even though the actual threat may be far less than that perceived. The resultant moral effect would ideally produce capitulation without resorting to combat, or more likely ensure that a decisive blow can be delivered against a physically and psychologically dislocated enemy.

The Utica campaign conducted by Scipio Africanus against the Carthaginians clearly demonstrates the decisive effect physical and psychological dislocation can have on battle. Rather than attacking Hannibal in Italy, Scipio chose to advance on his strategic rear in North Africa. After successfully defeating Hasdrubal's and Syphax's forces at Utica, Scipio elected to destroy the Carthaginian's allies and supply areas rather than attacking Carthage itself. This approach caused both the physical and psychological dislocation of the Carthaginians, and allowed Scipio to return his ally Masinissa to the throne of Numidia, thus guaranteeing the support of the strong Numidian cavalry. Scipio had taken the lines of least expectation and least resistance, and obtained great moral advantage. His subsequent advance on Carthage resulted in the Carthaginians suing for peace before battle. Scipio had so psychologically dislocated the Carthaginians that they lost the will to resist.

It was not physical dislocation that led to victory, but rather the psychological dislocation that resulted from such action. Additionally, Scipio was successful due to a combination of actions, surprise, deception, destruction of allies and supply lines, and use

of lines of least expectation and least resistance. His subsequent defeat of Hannibal at Zama, where again his strategy so dislocated the enemy as to ensure victory in battle, displayed his mastery of the indirect approach.

Other examples of campaigns which have exploited psychological and physical dislocation include the US Civil War and the Palestine Campaign during WWI. Stonewall Jackson's Shenandoah Valley campaign during the American Civil War, which successfully kept the Northern capital under strategic menace during 1862, is still held up as a model of how to use manoeuvre on interior lines. Similarly, the capture of Beersheeba utilised the lines of least expectation and least resistance in the most dramatic way. Having delivered a major psychological blow at Beersheeba the allies were then able to rout the Turkish forces at Megiddo in 1918, once again made possible by meticulous concealment measures which enabled the attack to achieve complete surprise.

In the years following World War I, such military theorists as Liddell Hart and Fuller rejected the methods used in trench warfare and the Clausewitzian idea of the destruction of the enemy being the key objective of a military operation. Instead, they contended that, through the application of manoeuvre, destruction of forces may be unnecessary, as removal of freedom of action will render a force ineffective.

The indirect approach cannot be used dogmatically, however, as circumstances and political aims may make a direct approach more effective.⁹¹ The early German successes in World War II, based on the three central tenets of Blitzkrieg theory: surprise, speed and superiority of material and firepower,⁹² caused manoeuvre theory to be further refined. This requirement for a more holistic approach has resulted in the development and adoption of the manoeuvre theory, which combines the direct and indirect approach, as the doctrinal foundation for most Western defence forces today.

Manoeuvre theory has been further developed since World War II by theorists such as Boyd, Hooker and Leonard. Boyd, following his study of air-to-air combat in the Korean War, described how a force could operate within the decision cycle of an opponent by acting more quickly than an opponent could react. This concept, variously described as

⁹¹ B.H. Reid, 'J.F.C. Fuller and B.H. Liddell Hart: A Comparison', *Military Review*, May 1990, p.65.

⁹² F.O. Miksche, *Blitzkrieg*, London: Faber and Faber, 1941, p.28.

the OODA loop or Boyd Cycle, involves observing and quickly orientating oneself to a situation and then being able to make a decision and act on it prior to an opponent. This process has become central to Manoeuvre Theory and has shaped the link between concepts such as situational awareness, decision superiority and decisive manoeuvre which are central to the application of operational art at the operational level.⁹³

Hooker, in common with other writers, has focused on the cerebral processes associated with manoeuvre theory. Hooker describes this approach as:

a thought process that seeks to pit strength against weakness to break the enemy's will. Although dynamic movement is found in most historical examples of manoeuvre warfare in action, it is a mistake to conclude that manoeuvre warfare is nothing more than rapid movement to attack a flank. Manoeuvre warfare teaches leaders how to think, not what to do. This is its first and most important contribution to the theory and practice of warfare.⁹⁴

Leonard has combined the application framework contained in Blitzkrieg and Boyd's OODA loop with Hooker's cerebral process, to argue that manoeuvre warfare is above all a philosophy concerning the means of defeat of the enemy. As such he describes three defeat mechanisms, pre-emption, dislocation and disruption.⁹⁵ Pre-emption involves 'seizing an opportunity, often fleetingly, before an opponent does, in order to deny him an advantageous course of action'.⁹⁶ This component requires accurate and timely information which is translated into pre-emptive action. Dislocation involves 'denying an opponent from bringing his strengths to bear'⁹⁷ and can be applied in two ways: positional and functional. Positional dislocation involves forcing an opponent to move from a decisive point through attacking, or appearing to attack, him from an unexpected direction or point, whereas functional dislocation neutralises the enemy's strength or makes it inappropriate. Finally, disruption involves 'attacking the enemy selectively to break apart and throw into confusion the assets which are critical to the employment and coherence of his fighting power'.⁹⁸ Disruption is achieved by attacking the enemy's centre of gravity.

⁹³ Decisive Manoeuvre, Australian Warfighting Concepts to Guide Campaign Planning, January 1998.

⁹⁴ R.D. Hooker, 'Redefining Manoeuvre Warfare', *Military Review*, February 1992, pp.51.

⁹⁵ R.R. Leonhard, *The Principles of War for the Information Age*, Novato: Presidio Press, 1998, p.53.

⁹⁶ British Military Doctrine, *Operations*, UK: HQDT, 1994. p.2-4.

⁹⁷ *ibid.*, p.2-5.

⁹⁸ *ibid.*, p.2-5.

General Schwarzkopf's plan during the Gulf War involved all these components in providing the necessary conditions to achieve the swift land battle victory. Pre-emptive air strikes removed the Iraqi air force's ability to operate. Positional dislocation was achieved through the amphibious assault deception plan and functional dislocation was achieved through degrading Iraq's command and control infrastructure and lines of communications. Finally, disruption involved the attack along lines of least expectation and against lines of least resistance (using the inland approach to Kuwait) in order to defeat the Iraqi land forces.

At the campaign level the identification of the enemy's centre of gravity and the decisive points leading to that centre of gravity are fundamental to the application of the key elements in Manoeuvre Theory. Once defined they shape the sequencing of operations and the application of the defeat mechanisms of pre-emption, dislocation and disruption. At the operational level manoeuvre involves more than just movement; it requires an attitude of mind that seeks to do nothing less than unhinge the entire basis of the enemy's operational plan. Predicting an enemy's course of action and manoeuvring to impede their freedom of action are the essential ingredients of the indirect approach. In an era when the limitation of casualties (the enemy's as well as one's own) and a timely ending of hostilities are likely to be political imperatives, a plan that decapitates or unhinges an enemy force by manoeuvre is likely to be more acceptable than one that destroys it by attrition.

The pursuit of manoeuvre at the operational level, however, is not a replacement for attrition. The most successful plans involving manoeuvre are likely to include elements of attrition through the devastating application of firepower and the paralysing effects of lethal and non-lethal weapons. It is of course the threat of actual delivery of selective but overwhelming attrition against a key vulnerability that brings about the systemic disruption sought by manoeuvre.

Key to the success of manoeuvre warfare doctrine is the ability of the force to gain information and be mobile at any time and in any conditions in order to exploit presented opportunities. Whilst this approach takes advantage of information technology, in the current RMA environment it has been argued that there is a requirement to change, or at least amend, some of the underlying principles of this doctrine. Some would go further in arguing that manoeuvre warfare is outdated and should be replaced by a knowledge

warfare,⁹⁹ or information warfare doctrine,¹⁰⁰ which reflects third wave warfare and capitalises on the developments in information systems and technology.

Knowledge Warfare doctrine aims to exploit the vastly improved ability to view the battle and evaluate and communicate timely information throughout the battlespace. This ability, if supported by a sound doctrine and relevant capabilities, will enable the defence forces to increasingly undertake operations, which are consistent with the overall strategic intent, more rapidly than an opponent can react. The end-state will be complete paralysis, at all levels of operations, in the enemy's war making capability.

This doctrinal approach is consistent with our manoeuvre warfare principles. However, it does provide a greater focus on the ability to exploit friendly information whilst shaping an opponent's actions by manipulating his access to real time intelligence and information. Information Warfare emphasises the importance of information as a key element of combat power and the requirement for information dominance. There are two key elements of information warfare: command, control, communications, computers and intelligence (C4I) and command and control warfare (C2W). C4I involves the integration of a broad range of concepts and equipments in support of joint and combined operations. In turn C2W complements C4I by protecting friendly C2 capabilities whilst countering enemy capabilities.

The concept of command and control warfare is not new, but the application of modern methods and equipment have greatly increased the range of options available to disrupt an enemy's command process. Command and control warfare embraces, but is not necessarily limited to, a number of specialised warfare disciplines such as psychological operations, operations security, physical attack, electronic warfare and deception which, when combined with accurate and timely intelligence, produce a synergistic effect.

Command and control warfare is applicable at all three levels of conflict and is divided into attack and protection categories. The philosophy centres on the identification of an enemy's key command and control nodes and subjecting them to selective attack,

⁹⁹ Harry K. Lesser, Jr. 'The Revolution in Military Affairs and its Effect on the Future Army', Newport RI: US Naval College, 1994, p.9.

¹⁰⁰ Michael J. Mazarr, 'The Revolution in Military Affairs: A Framework for Defence Planning', Carlisle Barracks, P.A.: Army War College (U.S.), Strategic Studies Institute, 1994, p.9.

neutralisation or exploitation while at the same time identifying the vulnerability of own forces and taking appropriate steps to protect or reduce such vulnerability. To exploit information warfare we require to refine our manoeuvre warfare doctrine so that it clearly demonstrates how information fits into operations and how it should be handled and disseminated throughout the levels of war. Moreover, we need to have the structures, systems and processes in place to enable us to effectively apply the doctrine.

Information warfare in exploiting C4I and C2W will necessarily impact on the current framework for operations provided by the vertical dimension of warfare. As stated in the previous chapter our doctrine has divided battle space into three levels - the strategic, operational and tactical levels of war. The RMA will result in a greater overlap and add a greater emphasis on political, economic and psychological elements. Information warfare aims to exploit this multidimensional approach by focusing on the requirement to utilise all elements of information - economic, political, psychological, social and military. It requires a broader doctrinal approach involving the requirement to utilise attacks on an opponent's telecommunications, financial institutions and world markets as well as military communications in order to defeat an opponent.

Another impact of an increasingly horizontal battlespace will be a challenge to the philosophy of directive control, involving clear direction by a superior of his intentions in order to allow subordinates freedom of action in achieving assigned tasks, which underpins our Manoeuvre Warfare doctrine. Current doctrine emphasises directive control in order to enable subordinate commanders to take advantage of fleeting opportunities and enemy mistakes. Successful application of this method draws its power from opportunism - the calculated risk, and the exploitation of chance circumstances and by effectively employing surprise, speed and aptness of response. However, advances in information technology, resulting in increasing levels of accurate and timely information and intelligence at higher and higher levels potentially threaten this underlying philosophy. Developments in C4I systems will allow commanders at the highest levels to direct actions at increasingly lower levels. This centralisation, known as the direct method, will also enable commanders and staff to integrate fire support, communications and intelligence systems effectively in order to synchronise parallel operations against an opponents critical vulnerabilities. For example the air campaign missions flown in the Gulf War, and more recently in

Yugoslavia, were planned to the finest detail against selected targets in support of the overall campaign plan.¹⁰¹

However, it is questionable whether such an approach will suit the ADF and NZDF approach to warfighting with an emphasis on dispersed operations conducted by small, mobile and networked forces across all dimensions. In retaining this approach we can exploit the driving influence of the information revolution, which is the weakening of hierarchies and strengthening of networks. In a hierarchy, information flows vertically, down and up the chain of command. The military, as an institution, has traditionally relied heavily on hierarchy. Herein lies its failing, particularly against an adversary whose decision system is decentralised and information dissemination multi-channelled. The US lost the war in Vietnam because the opponent worked as an information network with no single key point which could be exploited. By contrast the Coalition won the Gulf war in large part because it was able to exploit Iraq's hierarchical command and control structure. Accordingly, to succeed we need to adapt networks in which information flow is multi-directional. Our doctrine should emphasise a philosophy of any type of information, to anywhere at any time. The archaic principle of information follows the chain of command must be replaced by two central pillars: centralised planning and decentralised control; and second, information on demand without any filter or choke point en route.

Ultimately the application of the two methods of control, currently being refined by the ability for total access to real time information, depend on the prevailing conditions. Information warfare will be determined by the resources being used, the nature of respective tasks and the operational situation.

The carnage of WWI forced military theorists to analyse military history and attempt to influence how military forces could approach future warfare differently. Physical and psychological dislocation of an opponent using all elements of national power became the model and manoeuvre warfare the approach.

Western defence forces have adopted manoeuvre warfare as their doctrinal approach, based on the realisation that we cannot afford to fight a series of protracted

¹⁰¹ Alan Stephens, 'Kosovo, Or the Future of War', Air Power Studies Centre Paper Number 77, Canberra: Air Power Studies Centre, August 1999, p.17.

battles of attrition to achieve success. This approach seeks to achieve physical success through the psychological domination of our opponents using pre-emption, dislocation and disruption. At all levels we seek to threaten and, if necessary, strike those critical vulnerabilities that lead to an opponents centre of gravity. Decisive points along the lines of operation towards the centre of gravity can be tangible targets such as lines of communications; C3I nodes; military capabilities and industrial sights, whereas the centre of gravity at all levels may be less tangible, such as the morale component of the opponent. In constructing a campaign to exploit an opponent's critical vulnerabilities, superior technology and doctrine have proved to be a potent combination. However, Vietnam, Afghanistan and Somalia equally demonstrate that to succeed they must also be blended with the moral component of fighting power.

The need for, at the minimum, some doctrinal change, based on the technological aspects of the RMA, will also impact on our future force structure, capability requirements, professional education and individual and collective training. Further, doctrine should not be written around equipment; rather, the equipment should fit doctrine. Equally, where a technological advance renders some aspect of doctrine obsolete, there needs to be a willingness to adapt accordingly. Some of the worst failures in warfare have not been due to an unwillingness to adopt emerging technologies, but rather because a nation's defence force has been unable to change its doctrine, and then adjust those technologies, appropriately. Accordingly, we need to redress this situation by recognising the critical input our doctrine has in determining our military capability. The next chapter will address this issue and identify the approach we need to take to future warfighting and in particular the application of operational art at the operational level.

CHAPTER SIX

ADF AND NZDF APPROACH TO OPERATIONAL ART

A nation's approach to warfighting represents a philosophy, developed within the national circumstance, that influences all the levels of war and, to varying degrees, spans the spectrum of conflict. While the elements of this philosophy may not be unique, in defining them a nation recognises the influence of its international environment, national interests, national character and unique capabilities on its approach to war. The last chapter concluded that nations have failed in past campaigns due to an unwillingness to change their doctrine and exploit available technologies appropriately. This chapter addresses the approach Australia and New Zealand need to take into future operations, particularly in the way they apply operational art, in order to avoid a similar result. It will suggest that, by adopting an approach to warfighting that exploits technology in combination with their national characteristics, they can turn their unique circumstances to advantage across the full spectrum of operations.

In arriving at this conclusion the chapter will first analyse what has shaped the Australian and New Zealand approach to warfighting. By using historical examples, it will illustrate when ADF and NZDF commanders have operated at the operational level and how its forces have, on occasions, demonstrated some distinctive national traits when operating within a theatre. It will then analyse the current security and operational environments our defence forces may have to operate in and then suggest an approach to warfighting which aims to exploit our strengths, whilst protecting their weaknesses, in order to strike at an opponent's centre of gravity.

The operational level is about planning, orchestrating and sustaining campaigns. Success at this level involves the ability to identify an opponent's, or one's own, vulnerabilities, and then shape the campaign to exploit or protect them accordingly. A key component in this process is the role played by the commander. In chronicling the ADF's experience at the operational level, particularly its commanders, Dr David Horner¹⁰² makes the distinction between commanding a campaign and national command.

¹⁰² Dr D.M. Horner, Presentation to JSSC, 1997.

The former involves the planning, sequencing and direction of campaigns¹⁰³ and major operations, whereas the second can range from an administrative function to the more complex task of aligning national goals with the theatre commander's objectives. Both Australia and New Zealand have had commanders who have fulfilled these roles, in some cases all three. The following examples aim to demonstrate some distinctive factors that have shaped, and will continue to shape, the approach taken by our operational level commanders and forces.

Perhaps the first experience of the operational level of war, involving the link between the strategic and tactical level to realise military strategic objectives, by the antecedents of the ADF and NZDF, were the expeditions to German New Guinea and Samoa respectively in World War I. The Samoan Detachment of the New Zealand Overseas Expeditionary Force, which consisted of 1,350 officers and men, sailed from Wellington on 15 August 1914 with the object of seizing and occupying the German possession of Samoa, and especially the wireless station at Apia. The Force was escorted by New Zealand, French and Australian Battle Cruisers and successfully occupied Samoa without opposition on 28 August.¹⁰⁴ In parallel, the expedition to German New Guinea successfully achieved its objectives in six days and was described by a Defence Department publication as 'the first Australian joint military operation conceived, planned, organised and executed by Australia with the overall political direction leading back to the Government of Australia'.¹⁰⁵ However, both the Samoan and New Guinea expeditions were in reality campaigns in name only and contribute little to our analysis of the ADF and NZDF experience at the operational level of war.

During the ensuing years of World War I both Australia and New Zealand had a small number of Generals who, whilst not campaign commanders, were exposed to the operational level of war through their involvement in the planning of operations, combined with their national command responsibilities. Lieutenant General Sir John Monash, who commanded the Australian Corps during the offensive in France from August to October

¹⁰³ United Kingdom Doctrine for Joint and Combined Operations defines a campaign as a sequence of planned, resourced and executed military operations designed to achieve a strategic objective within a given time and theatre of operations, usually involving the synchronisation of maritime, land and air forces. Campaign planning is the responsibility of the operational level commander. JWP 0-10, 1997.

¹⁰⁴ New Zealand Expeditionary Force Diary, Wellington: 1915, p.3.

¹⁰⁵ Quoted in D.J. Killen, 'The Government's View', in Robert O'Neill and D. Horner, (eds), Australian Defence Policy for the 1980s, St Lucia: University of Queensland Press, 1982, p.1.

1918, was given the greatest exposure to the operational level through his interaction with General Haig and his planning staff and in his role as a Corps commander. Major Generals Sir William Bridges, Gordon Legge and Birdwood, in commanding the 1st Australian Division, ANZAC Corps and the Australian Corps respectively, provide examples of commanders who fulfilled both the functions of a tactical commander and, in their capacity of GOC of the Australian Imperial Force, national command.¹⁰⁶

The New Zealand Expeditionary Force in World War I was commanded by Major General Alexander Godley. This force contributed to the defence of the Suez Canal prior to participating, as part of the Australian and New Zealand Army Corps, in the badly planned and ill conceived campaign on Gallipoli. This campaign demonstrated the failure of commanders at all levels to translate strategic guidance into tactical actions capable of achieving set operational objectives. From this disastrous campaign the Expeditionary Force was split into the infantry division which went to France and a mounted brigade which operated in Palestine. It was in this latter campaign that Generals, such the Australian Chauvel¹⁰⁷ and the New Zealander Chaytor,¹⁰⁸ were exposed to the successful application of operational art and operational manoeuvre in support of clearly defined operational objectives that supported the strategic end state.

The second phase of the Palestine Campaign, in particular, provides one of the best illustrations of Australian and New Zealand forces participating in a successful campaign involving decisive manoeuvre. Further, it demonstrates an ability for Australian and New Zealand forces to bring to a theatre a distinctive style of fighting which combines tempo and agility with the indirect approach. This phase of the campaign witnessed the Australian and New Zealand Mounted division participate in the invasion of Palestine and the advance through Jerusalem, Megiddo, Damascus to Aleppo. The style of warfighting the Australian and New Zealand mounted rifles and camelier units had developed during the earlier phases of the campaign provided the Commander-in Chief, General Allenby, with some critical tools for success. First, they provided the necessary situational awareness, through reconnaissance patrols, for the allied commanders to identify their opponent's critical vulnerabilities and plan the discrete campaign phases accordingly. Second, through

¹⁰⁶ Dr D.M. Horner, Presentation to JSSC, 1997.

¹⁰⁷ Lieutenant General Sir Harry Chauvel was the GOC of the AIF in the Middle East from 1916 to 1918.

¹⁰⁸ Major General Edward Chaytor commanded the New Zealand Mounted Rifles Brigade from 1915 to 1916, and the ANZAC Mounted Division from 1916 to 1918.

their ability to react with speed, the Light Horse and Mounted Rifles provided the operational commander with a manoeuvre group capable of rapidly exploiting tactical advantage to achieve operational objectives.

Perhaps the best example of the planning and execution of the indirect approach involving Australian and New Zealand forces was the successful taking of Beersheeba. As stated earlier, the key to success at the operational level lies in identifying the opponent's critical vulnerabilities and centre of gravity during the planning phase. Next, it is critical to shape the battlefield during the preparatory phase to provide the most chance of success for the attacking forces. Finally, the plan must combine surprise and concentration of force at the decisive point in order to achieve success.

Beersheeba demonstrates that in combining these elements successfully the allies were able to attack along lines of least expectation and resistance in order to manoeuvre against the enemy's interior lines.¹⁰⁹ In planning the attack General Allenby planned to shape the opponent, like Alexander had forced Darius to attack the Greek Army's right flank at the Battle of Gaugamela in 331 BC, by deceiving the Turks into deploying their forces to the wrong flank. This outcome required an intricate deception plan which included the planting of a haversack containing mock plans, heavy naval and artillery bombardments in Gaza prior to attacking Beersheeba and the appearance of an amphibious landing to the rear of Gaza. In deceiving his opponent General Allenby's plan was to strike at Beersheeba and, having taken the invaluable water supply, roll up the whole Turkish line back upon Gaza. The deception proved so successful the Turks main defences deployed around Gaza that the sightings of forces moving towards Beersheeba were written off as a diversionary move. Next, the plan involved the synchronisation of a feint in front of Beersheeba with a rapid attack against the Turkish left flank by the Australian Light Horse and New Zealand Mounted Rifles, supported by the Royal Flying Corps and Royal Navy. All these components contributed to one of the most successful examples of operational manoeuvre in World War I. The result was a resounding victory for the allies. Ultimately, the success of this plan demonstrates that operational art requires the correct identification of the opponent's critical vulnerabilities, the execution of a credible deception plan and the ability to concentrate forces against the weakest point (Beersheeba)

¹⁰⁹ Major R. Taylor, Presentation to the Land Command Palestine Campaign Study Period, Wellington: April 1999.

and rapidly exploit tactical advantage.¹¹⁰

World War II provides further illustrations of Australian and New Zealand commanders and formations successfully applying operational manoeuvre. The early experiences in Greece, Crete and North Africa, however, were marked by a series of defeats that reflected ill prepared and badly equipped allied forces commanded by inexperienced commanders. They were also indicative of an opponent who was well versed in the components of operational art and equally capable of successfully applying operational manoeuvre. For Major General Freyberg, the commander of the 2nd New Zealand Division, these early defeats were particularly tortuous. Freyberg's appointment as commander of all Allied forces on Crete provided New Zealand with its only experience of command at the operational level in World War II, although both Freyberg and Major General Howard Kippenberger went on to successfully command at Divisional and Corps level.

Winston Churchill, smarting from the defeat of the allied forces in Greece, decided that Crete must be held. Control of Crete was seen as essential in confining the German sea and air forces and thereby limiting their ability to damage the supply to the North African allied forces. However, whilst strategic guidance and the end state were given to Freyberg, and access to German military signal traffic, through ULTRA, was available, the resources provided to him for the defence of Crete were limited. Although the Royal Navy dominated the maritime approaches to Crete there was virtually no air cover for the ground forces, many of which lacked proper training and equipment. In attempting to achieve his mission, however, Freyberg aimed to shape the battlespace to best defeat the impending invasion. He split the island into four sectors: Marleme, Suda Bay, Retimo and Heraklion and in the three available weeks he planned, briefed and executed the plan for the defence of Crete. Part of this plan was the identification of allied critical vulnerabilities, such as Maleme airfield, and providing the necessary protection.

On May 19 the last British aircraft were withdrawn from Crete and the following day Operation Mercury, the German invasion of Crete, was launched against an allied force totally without air cover. Despite these limitations the defenders managed to contain

¹¹⁰ Lieutenant Colonel C. Guy Powles, CMG, DSO, the New Zealanders in Sinai and Palestine, Wellington: Whitcombe and Tombs Ltd, 1922, p.112.

the assaults on Retimo and Heraklion. However, through a combination of confusion and bad tactical decisions by the commanders on the ground, Marleme airfield was taken. The Germans were quick to reinforce success and following a failed counter attack were able to rapidly expand and, despite heavy fighting throughout the island, defeat a force whose lack of communications prevented the commanders from having any clear situational awareness and with it any ability to synchronise offensive action. On 1 June the decision to stop the evacuation of forces from Suda Bay signalled that the battle for the Balkans was over.

Ultimately the failed defence of Crete illustrates the difficulty of applying operational art in the absence of clearly thought out strategic guidance, no air cover, poorly equipped forces, inexperienced commanders and limited communications. The subsequent report made by the Inter-Services Committee on Operations in Crete found that:

...the major lesson of this campaign was that to defend with a relatively small force an island as large as Crete, lying under the permanent domination of enemy fighter aircraft and out of range of our own was impossible.^{111 112}

These lessons were not lost on Freyberg and the New Zealand Division and they rapidly adopted innovative concepts and tactics, just as the Mounted Brigade had done in Palestine in World War I, appropriate to the North African environment. By 1942 Freyberg and his Division had mastered motorisation, which in combination with armour, could be employed in a flanking movement aimed at out-maneuvring an opponent. The 2nd Division completed three such manoeuvres, referred to as left hooks, at El Agheila in December 1942, near Tripoli in January 1943 and finally at Tebega Gap in March 1943. This last left hook involved a move around the Mareth Line to the Tebega Gap where the New Zealand Corps, supplemented by armour, artillery and close air support broke through the enemy line. This battle has subsequently been described as a 'set piece battle, a model of collaboration of close air and armour support, with a well planned breakthrough and well co-ordinated pursuit.'¹¹³

However, this positive analysis and assessment of the left hooks was not entirely shared by some of Freyberg's commanders at the time, and is certainly not accepted by

¹¹¹ Laurie Barber and John Tonkin-Clovell, Freyberg, Churchill's Salamander, Auckland: Century Hutchinson New Zealand Ltd, 1989, p.119.

¹¹² PRO WO106/3126, Report by an Inter Services Committee on Operations in Crete, (November 1, 1940, to May 31, 1941).

¹¹³ Laurie Barber and John Tonkin-Covell, p.259.

Lieutenant Colonel Glyn Harper in his memoirs of Major General Sir Howard Kippenberger.¹¹⁴ Glyn Harper shares the opinions of two of the Division's brigadiers, Kippenberger and Gentry, that Freyberg was excessively cautious in applying the left hooks, and believes that he failed to seize the opportunity to capture or destroy the Afrika Korps at an earlier stage. Accordingly, he directly caused the Eighth Army, and with it the 2nd New Zealand Division, to conduct a number of unnecessary and hard fought engagements in Tunisia. This assessment has some merit and requires further analysis if we are to determine what shapes the Australian and New Zealand approach to warfighting.

For his part Freyberg saw the left hooks as:

Simply an outflanking operation on a bold scale adapted to desert conditions. Its object is to turn the enemy out of a strong position by outflanking him to the left and so attacking him by surprise from the left flank or in the rear.^{115 116}

Freyberg's Personal Assistant, Sir John White echoes this description, when he states that:

The left hooks were only expected to turn a retreat, not cut it off entirely. It couldn't be done with only one armoured brigade in any case.¹¹⁷

In analysing this interpretation it is worth noting that it closely mirrors the manoeuvrist approach advocated by Leonard, referred to in Chapter 5. Positional dislocation is described by Leonard as forcing an opponent to move from a decisive point through attacking, or appearing to attack, him from an unexpected direction or point. This was demonstrated at El Agheila in December 1942 and near Tripoli in January 1943. Furthermore, in stating that disruption involves 'attacking the enemy selectively to break apart and throw into confusion the assets which are critical to the employment and coherence of his fighting power',¹¹⁸ Leonard advocates that it is achieved by attacking the enemy's centre of gravity. Again could it not be argued that this was achieved at Tebega Gap in March 1943. Perhaps the answer to this debate lies not in the approach taken, dislocation rather than defeat, but the desire of a formation commander from a small nation

¹¹⁴ Lieutenant Colonel Glyn John Harper, Kippenberger: An Inspired New Zealand Commander, Auckland: Harper Collins, 1997, p.285.

¹¹⁵ Left Hook, p.2. WA II8/40, WA II Series 8, Freyberg Papers, NZNA.

¹¹⁶ Glyn Harper, p.252.

¹¹⁷ *ibid.*, p.252.

¹¹⁸ British Military Doctrine, Operations, UK: HQDT, 1994, p.2-5.

to minimise casualties. This desired outcome potentially shaped the need to engage the enemy in a decisive action only when the chances of success were very high and the risk of casualties very low.

This desire to minimise casualties is a key consideration in the decision making process that commanders of small national forces have to take when examining campaign plans and their role therein. This reality is well captured by W.E. Murphy's in his study of Blamey's and Freyberg's Charters.¹¹⁹

New Zealand's one division in the Middle East, for example, was one among many. Yet to lose this one – or a large part of it – would have been a national disaster in a way that the loss or crippling of a British division would not have been. Moreover, the morale of New Zealand was to a significant degree related to the performance and well being of its division, its best known and best understood contribution to the war, the bearer of the tradition born at Gallipoli, the focal point of the heightened national feeling of wartime, and the inspiration for a great deal of war effort in other directions. Freyberg sensed this and realised that a disaster to his division would have far reaching repercussions. After two forlorn hopes in Greece and Crete he had to avoid further failure. What he wanted was a success, but it was important that they were not employed upon another costly failure.

Australian commanders and formations experienced the same frustrations as their New Zealand counterparts in the early defeats in Greece, Crete and North Africa. The Australian Divisions, as part of the Eighth Army, played a key role in turning the tide against Rommel's Afrika Korps at El Alemein. However, the need to defend Australia in 1942 immediately placed a number of Australian commanders at the operational level. Key amongst these was General Blamey, who as Commander Allied Forces provided the land component of General Douglas MacArthur's South West Pacific theatre level headquarters. The ensuing campaign against the Japanese in the Pacific involved Australian Forces combining with the US to first expel the enemy from Papua in 1942 and the early part of 1943, and then with New Zealand forces participating in Operation Cartwheel to remove the Japanese from the South West Pacific in the second half of 1943. Operation Cartwheel, with its three distinct, but parallel, campaigns, provided General Blamey and his staff with the opportunity to command a campaign that involved the orchestration of combined maritime, land and air forces. The successful battles at Lae, Salamau and Finschhafen demonstrated the ability for Australian commanders to successfully plan and execute a campaign that required the sequencing and synchronising

¹¹⁹ W.E. Murphy, 'Blamey's and Freyberg's Charters', Wellington: Victoria University, 1964, p. 21.

of an air campaign with two major amphibious landings and airborne assaults involving combined forces. It must be noted that these operations were necessarily littoral, a feature which still shapes Australia's maritime strategy and operational environment, and demonstrates the continuing need for joint and combined operations.

The historical examples provided illustrate that whilst a number of Australian and New Zealand commanders have had experience at the operational level our armed forces have been organised principally on the basis of what they could contribute to the wider allied cause. Despite this Australia and New Zealand forces have demonstrated a flair for, and an ability to apply, a manoeuvrist approach combining innovative tactics in a joint and combined setting, underpinned by the national imperative to minimise casualties.

It was not until the end of the Vietnam conflict, and in particular the Cold War, however, that both nations realised the need for a new approach that recognised their global commitments and the need for the ability to act alone or in partnership. This requirement has led both Australia and New Zealand to realise the need to develop expertise in the planning and conduct of operations across all levels of war, and in particular at the operational level. Fundamental to shaping their approach to warfighting, and the way that they will apply operational art is Australia and New Zealand's international environment, national interests and approach to protecting and promoting those interests. While these elements are discussed in government 'White Papers', the enduring factors that continue to shape both nations' circumstances are: the nature of their region, including its strategic environment, military capabilities and culture; the size of their force in being relative to their area of interest; their reliance on foreign-sourced and supported technology; and their national character.

Australia and New Zealand's strategic circumstances have changed fundamentally in recent years. In part this has been a reflection of international events, most notably the collapse of the Soviet Union and the resulting end of the Cold War. However, it also reflects the widespread political, social and economic changes taking place within the Asia-Pacific region itself. Together these influences are transforming the security framework within which Australia and New Zealand set their foreign and defence policies and in turn their force structure and approach to warfighting.

In the late 80's and early 90's the Asia Pacific's economies were becoming increasingly interdependent; and for most nations military and economic security relations were intertwined and mutually supporting. This approach witnessed the prominence of a number of economic and political associations. Whilst the relative success of these associations indicated a favourable strategic situation within the wider region, based on strong impulses for collaboration and co-operation, there were also pressures that potentially encouraged competition and confrontation. For example, while regional superpower domination ended, new regional hegemony threatened to emerge. Further, as the superpowers reduced their regional military capabilities, the military expenditure of states, both within the region and farther afield, threatened to increase. Such developments resulted in a shift of the military balance against Australia and New Zealand and threatened our economic security. More recently the economic crisis in Asia, accompanied by increased tensions between Singapore and Malaysia, nuclear weapon proliferation and clashes over Kashmir in India and Pakistan, increasing tension on the Korean Peninsula¹²⁰ and conflicting claims to the Spratley Islands, served only to exacerbate the situation. Perhaps the most immediate concern to Australia and New Zealand is the internal unrest that has resulted in their increasing involvement in Papua New Guinea and in particular Indonesia. This situation has resulted from the toppling of key political figures, the questionable role of military forces in politics, and the calls by Bougainville and East Timor for independence.

Against this background of uncertainty Australia and New Zealand continue to pursue multi-dimensional security policies in which economic, political and other non-military aspects of security are treated as equal in importance to military security. Within this framework three key factors influencing Australia and New Zealand's security are their relationship with the United States (US),¹²¹ the role of the major North East Asian powers and the regional Defence Forces' modernisation programmes.¹²² This section will consider the importance of these factors to Australia and New Zealand's security outlook and evaluate their significance and potential impact to the approach they take to warfighting.

¹²⁰ The naval battle in June 1999 involved a 14 minute skirmish between North and South Korea in which a North Korean 40 ton torpedo boat was sunk and 30 sailors died.

¹²¹ Strategic Review 1993, Canberra: Directorate of Department Publications, Defence Centre, 1993, p.8.

¹²² *ibid.*, p.9.

The steady contraction of US influence on regional security issues, as its presence becomes more equivocal and the regional states pursue their own agenda, is significant to its security arrangements with Australia and New Zealand. The removal of the Soviet threat has thrown into question the extent of US investment in the massive military establishment required to support its deterrent posture in the Asia-Pacific region. Further, whilst US economic interests in the region are accepted, the requirement for the military to protect them is increasingly questioned. At the same time, US trade frictions with Japan and China are likely to have a negative effect on their political, and in turn their security, relationships with other states. This outcome, in an environment in which Australia and New Zealand have more in common with China and Japan, certainly in terms of trade, could impact on our economic and defence relationships with the US.

As the economic importance of the US to Australia decreases, so in turn the economic importance of Asia to Australia increases. However, whilst debates related to issues such as tariffs on Australian and New Zealand products signal increasing economic rifts, in the short term the US continues to be a major investor in Australia and to a lesser degree New Zealand and Australasian firms are still investing strongly in the US. Moreover, whilst the relationship with the US may suffer on trade issues it is widely accepted that the fundamental bedrock of the alignment is defence.

The end of the Cold War, coupled with the ANZUS rift created by New Zealand's stance on nuclear issues, made American participation in New Zealand's defence appear less likely than it was during that period. Despite this possibility, Australia and New Zealand still actively pursue the ANZUS alliance. Moreover, President Clinton's commitment to improved defence relations, including combined exercises, between the US and New Zealand during APEC 99 was an important step in re-building the ANZUS alliance. A drifting ANZUS relationship removes the added dimension it currently brings to Australia and New Zealand's bilateral security relationships with regional countries. Furthermore, a reduction in the current peacetime benefits of co-operation in intelligence, training, logistics support and equipment acquisition would result in an increased requirement for self reliance. In the short term, however, whilst the decline of US influence in the Asia Pacific Region has resulted in a realignment of the Australia-US and New Zealand-US relationship it still serves as a means of increasing the US engagement in the region and provides a valuable counter to the growing power of China and Japan.

A key issue for Australia and New Zealand is the extent to which the broader strategic changes in North-East Asia might influence its security position. For the first time this century, Asia faces a future in which the regional security agenda will primarily be in local hands. Whilst the region welcomes this repatriation of its sovereignty, there is widespread apprehension over the likely implications. The policies of the major Asian powers, and their relationships with each other, will be particularly important to Australia and New Zealand. As these relationships develop, the stability and predictability the Cold War imposed will be replaced by more complexity and less certainty in the strategic environment. Many of the smaller states in Asia are concerned that the increased competition between Japan and China could prove to be a destabilising influence on the regions security environment.

One area of potential conflict is the critical area of the South China Sea, involving conflicting territorial claims between China and several regional countries. China's taking of six positions from Vietnam in 1988, and the more recent occupation of the Philippines claimed Mischief Reef in December 1995, demonstrated her expansionist designs in this area. Conflict over the control of sea lines of communications in this area, and the associated territorial claims following the Law of the Sea conventions, could affect Australia's access to trade routes and its economic security.

Whilst there is the potential that individual states could undertake small-scale offensive operations to secure national interests, such as China's designs regarding Taiwan and the Spratly Islands, evidence suggests that a wider conflict situation will not arise in the short term. Instead the prospect for the Asia Pacific Region into the twenty first century is that the major powers will remain at peace and concentrate on economic recovery, development and more subtle forms of political competition. China and Japan undoubtedly have expanding military capacity, but this needs to be balanced by a realistic appraisal of their forces and a realisation that security issues in their own region will be their principal preoccupation. The developing influence of Asia's major powers in the region's strategic environment requires Australia and New Zealand to attach greater importance to constructive engagement with these states.¹²³ However, if political relations between China and Japan do deteriorate the potential outcome could result in conflict spirals and an arms

¹²³ *ibid.*, p.31.

race which would inevitably impact on Australia and New Zealand's security outlook.

For the near to mid term future, however, it is likely that China will not involve itself in large scale conflicts against opponents which it recognises are more able to exploit emergent RMA technologies and concepts.¹²⁴ Instead China will exercise its military influence in areas such as the Spratleys and Taiwan as it continues to modernise its forces. The events in 1996 and the response from the US demonstrate the potential for Australia and New Zealand to become involved, through its association with the US, in regional conflict. Moreover, the Chinese effort to master 'high-tech warfare with Chinese characteristics',¹²⁵ whilst slow, represents a potential threat that should not be casually dismissed.

The increases in defence budgets and military acquisition programmes within the Pacific Region during the early 90's led to the Economist observation in 1993 that whilst 'the end of the Cold War has brought perhaps the deepest peace that Asians have known this century', it is coupled with 'the paradox of an Asia which is furiously strapping on armour'.¹²⁶ At the time Desmond Ball¹²⁷ placed this development in context by suggesting that the increases in defence budgets were more a function of rising economic growth than perceived changes in the external threat environment. However, the recent economic trends have drastically slowed down this process and internal security has focused the regional defence capabilities away from external threats.

Yet, even slower rates of growth, when placed against the current growth rates in Australia and New Zealand's defence spending will result in a marked shift of the regional military balance against Australia and New Zealand. Moreover, Australia's reliance on its more sophisticated industrial base, and both countries' privileged access to US military hardware in order to maintain their technological edge can no longer be taken for granted. Regional states are fast catching up with Australia in the area of industrial technology, and the US is extending the privileged access to advanced military equipment to several regional states. Accordingly, Australia and New Zealand have to ensure that the planning

¹²⁴ G. Bates & H. Lonnie, 'China and the Revolution in Military Affairs', Carlisle Barracks, P.A.: Strategic Studies Institute, US Army War College, 1996, p.34.

¹²⁵ *ibid.*, p.35.

¹²⁶ *Economist*, June 1993, p.27.

¹²⁷ Ball D. 'Trends in Military Acquisitions in the Asia-Pacific Region: Implications for Security and Prospects for Constraints and Controls', Strategic and Defence Studies Centre Working Paper No 273, Canberra: July 1993. p.17.

and developing of their defences are pursued in the most cost effective and self reliant manner, coupled with a growing need for closer defence co-operation and dialogue with regional partners.

Since the end of the Cold War the US has declared its intention to remain actively engaged in the region and has affirmed that the security arrangements that exist with Australia and New Zealand are vital to it's interests. In a period when Australia and New Zealand's military capabilities are declining in relative terms, in comparison to the major powers in the region, a drifting ANZUS alliance would not be in their security interests. Moreover, the alliance serves to underpin Australia and New Zealand's self reliant security policy and provides a framework for co-operation in military, political and economic affairs. The alliance also serves to increase the United States' engagement in the region's strategic environment where it provides a valuable deterrent to regional power hegemonism.

In an environment of economic and political insecurity within the region, where ANZUS no longer provides us with an assurance of American assistance, and there is a marked shift in the military balance against Australia and New Zealand, their defence forces are challenged to develop and adopt innovative and smarter approaches to warfighting.

Collectively these factors will shape the way in which Australia and New Zealand plan and conducts wars, campaigns and operations. The size of their forces and the area they have to cover necessitate military options that will end hostilities as quickly and conclusively as possible, whilst minimising risks to personnel, resources and infrastructure. Further, since their circumstances do not include an obvious threat or theatre of operations, the ADF and NZDF's force structure and approach to warfighting must be flexible enough to cover all likely contingencies.

The desired end-state of this thesis is to identify the approach Australia and New Zealand should take, given their circumstances, to the application of operational art. To achieve this intent they need to first identify what warfighting characteristics, common to the ADF and NZDF, will shape the way their operational level commanders and staff apply operational art. It is largely acknowledged that the ADF and NZDF approach to

warfighting needs to be characterised by a manoeuvrist philosophy that aims at achieving disproportionate results to the effort expended. In applying a manoeuvrist doctrine both defence forces seek to develop plans that circumvent an enemy's strengths, whilst engaging them in a way that exploits our strengths in order to totally disrupt their plans. Ultimately, they aim to execute a plan that eliminates the enemy's centre of gravity through a series of decisive points in the most efficient and effective way.

A central tenet of this approach is a sound doctrine which is appropriate to the ADF and NZDF force structure, utilises available technology and encourages innovation. Innovative joint doctrine will provide the basis for the integration of traditionally discrete force elements by commanders who are striving to find better ways of warfighting.¹²⁸ Consistent with this philosophy of continuous improvement, both the ADF and NZDF are currently addressing the requirement for doctrine that matches their circumstances with current and future force structures. The ADF, for example, is expanding its current range of joint tactical doctrine to include a capstone strategic publication and a series of operational level doctrine publications.¹²⁹ This aim has been partially achieved at the operational level through the Australian Defence Publication 6, and supplements, which defines the operational level of war and the application of operational art.

In 1997 Major General Connelly, Commander Australian Theatre, directed that a publication identifying the key planning factors to be considered in the conduct of campaigns be developed. An interim edition was issued in 1998 and this will continue to be evaluated through a series of theatre level exercises. This interim publication does not seek to define an ADF concept for operations, such as the AirLand Battle doctrine developed by the US during the Cold War for a specific theatre¹³⁰ or the current Halt Phase Operations concept being developed by the USAF which relies on a high tech solution to

¹²⁸ The New Zealand Army has developed a Centre for Analysis and Doctrine at Trentham Camp, responsible for wargaming and trialling new approaches to warfighting.

¹²⁹ The ADFP series will shortly become a hierarchy of doctrine that covers all levels of war and the battlefield functions.

¹³⁰ In 1982 the US Army adopted a new warfighting doctrine expressed in their key field manual FM 100-5, Operations, called AirLand Battle, which allied advanced target acquisitions and command and control systems to a doctrine of offence to allow a deep battle to be fought by land forces striking deep into the enemy's rear.

warfare.¹³¹ Rather, it sets out a number of planning considerations that would apply to operations conducted by the ADF in protecting its national interests. This approach provides the flexibility to task organise for specific theatre conditions rather than the temptation to follow an operational template for all theatres.

This approach recognises that given the relative size of Australia and New Zealand's defence forces to those of potential adversaries, they will need to orchestrate available forces in order to maximise their combat effectiveness. Orchestration involves the timing and sequencing of operations throughout the theatre so that their cumulative effects are focused on the achievement of decisive points. Orchestration becomes particularly vital at the operational level given the ADF and NZDF's force-to-space ratio and the likely dispersal of resources and objectives within any theatre.

Tactical forces can only achieve the military end-state if the timing and sequencing of operations throughout the theatre is such that their cumulative effects are focused on critical vulnerabilities and the achievement of operational objectives. In turn this involves selecting resources and balancing their allocation between concurrent and sequential operations to ensure the campaign's overall momentum is sustained and sustainable.

This need for orchestration requires synchronisation across all levels and recognition of the need to selectively target critical vulnerabilities and strike them at a time and place which will achieve the greatest impact. However, whilst this requires clear direction from commanders and staff, and in some cases a tight control of scarce resources, such as air strike assets, there still needs to be an underlying culture that enables subordinate commanders to capitalise on opportunities or to counter any unexpected reversals, without consulting superior commanders.

¹³¹ The Halt Phase refers to a view of warfare as three phases. Phase I-Halt: an aggressor expands his territorial influence until halted. Phase II-Containment and Build Up: coalition forces contain aggressor and prepare for offensive. Phase III-Counter Offensive: coalition forces recover territory and defeat aggressor. Halt Phase concept proposes reducing Phase II by developing rapidly deployable, precise and discriminating platforms and weapon systems which operate in an environment characterised by information dominance and full dimensional protection – global Airpower.

Overall the circumstances facing both countries requires a manoeuvrist approach to warfighting that relies on the orchestration of limited but quality assets against selected targets, by decisive and innovative commanders, in order to achieve disproportionate results.

This thesis has sought to analyse, through historical and contemporary examples, operational art and its application by selected commanders. Earlier chapters identified that the success of commanders such as Alexander, Napoleon, Slim and Schwartzkopf lay in their ability to plan, orchestrate and sustain campaigns to meet specific military strategic objectives and end-states. Furthermore, current doctrine identifies that the specific functions of the operational level are best summarised as the translation of military strategic planning guidance into operational planning guidance and then the planning of the scheme by which the various lines of operational effort will be orchestrated to achieve operational objectives.¹³²

In planning and executing a campaign a commander must appreciate the co-ordination required to focus the threat or use of force on achieving the desired end-state in the most efficient and effective manner. This process entails orchestrating and sustaining offensive action to shape the battlespace in order to limit an opponents freedom of action and then striking him in order to disrupt his cohesion, whilst applying the necessary security to allow our forces to operate effectively with minimal interference.

Current practise at operational level headquarters within the ADF and NZDF is for planning to be conducted in accordance with the campaign appreciation process. This process uses the available information collecting sources to provide the necessary situational awareness to develop courses of action and plans that exploit the enemy's critical vulnerabilities, whilst protecting one's own, in order to achieve the desired end-state.

In the context of Manoeuvre, situational awareness is the commander's assimilation of battlespace information to achieve a deep understanding of the operational environment in order to shape future operations. Once established, situational awareness allows a commander to clearly state his or her intent as well as set clear planning and operational

¹³²

ADFP 6, Operations, p.5.

guidance for staff and subordinate commanders.

The commander's oversight and timely input is critical to a planning process which sets the basis for successful operations. In developing his or her planning guidance the operational commander applies the elements of the manoeuvrist approach to a specific set of theatre conditions. To achieve this outcome commanders complete a Mission Analysis. Mission Analysis¹³³ is designed to allow subordinate commanders to gain a full understanding of their superior commander's intentions. This process provides the basis for the commander to confirm his or her ability to achieve the superior commander's intent and then, through clear planning guidance, provides the necessary framework for the staff to commence developing courses of action. Manoeuvre theory then encourages staff to develop courses of action that consider the most appropriate actions to threaten or attack an adversary's critical vulnerabilities and centre of gravity. Each course of action will be influenced by the manoeuvrist approach and form the basis for a concept of operations and plan that achieves the required end-state. In developing courses of action a number of factors critical to the plan's success need to be considered. Given the ADF's and NZDF's physical location and relative size within the region these factors include: establishing the necessary preconditions within the theatre, projecting, securing and sustaining the force, and then selecting an opponent's critical vulnerabilities and identifying the best method of engaging them, in order to win.

Prior to deployment our forces require clear guidelines and an operational environment that provides the best chance for success. One of the key lessons from the theatre exercises conducted by the ADF is that the role of the operational level is to identify and then achieve the preconditions necessary for subsequent phases or operations. Strategic guidance and clear operational objectives need to be supplemented by the selection of deployment options that can be secured and achieved. For example the use of air and maritime assets to protect the deployment of ground forces and equipment to East Timor were well planned and critical to the successful establishment of an entry point at Dili on 20 September 1999.

Australia and New Zealand's strategic geography dictates that in order to conduct offensive action overseas, force projection will be required across long distances through

¹³³ NZ P86, New Zealand Army Staff Officers Handbook, Wellington: HQNZDF, March 1998, p.1-4-7.

all three environments regardless of the scale or location of the campaign. Force projection is the co-ordination of the assembly and projection of required force to a position from which they can threaten or engage the enemy in order to achieve operational objectives. Given the joint focus of campaigns, joint processes must be in place to manage force projection at the campaign level from deployment through to redeployment and the desired end-state. To effectively project our forces will require the balancing of competing priorities for available movement force elements, the sequencing of deployments and the activation of forward operating bases and the pre-positioning of equipment.

Recent deployments of ADF and NZDF forces to Somalia, Bosnia, Bougainville and East Timor have demonstrated these imperatives. However, the force projection processes which have been applied by the ADF and NZDF in deploying their forces to East Timor has provided a timely bench mark for evolving practices at the operational level. The establishment of a DJFHQ in Brisbane and the series of planning exercises conducted by the HQ during 1998 proved timely, albeit in a simulated environment. Moreover, the location of HQNORCOM and bases in Darwin and Tindal confirmed the requirement for a presence in Northern Australia and provided the necessary Forward Operating Bases to allow rapid force projection into the Timor theatre.

The current deployment demonstrates that force projection planning needs to be integrated into the sequencing or phasing of the campaign to match force preparation and engagement requirements. Given that the ADF and NZDF have limited integral force projection capabilities relative to the prospective size of the theatre, not only should the available force projection capabilities be efficiently utilised, but agreements and practised processes need to be in place to gain the most benefit from civilian and allied capabilities. The use of civil air and sealift capabilities, such as for the deployment to Bosnia and Darwin, will continue to be a planning factor in any New Zealand deployment. Accordingly, to achieve effective force projection, NZDF planners require detailed knowledge of the characteristics, capabilities and support requirements of each force element. Force projection planning will require information support systems that provide common visibility of planning data.

Once deployed the resources available to the ADF and NZDF dictate that they need to be selective in the application of force. To maximise the benefit of the use of force, it should be used against targets which best facilitate the achievement of the campaign objectives: that is, against the enemy's centre of gravity through decisive points. It is essential that processes be in place to enable the identification and selection of the most appropriate critical vulnerabilities that will be targeted in order to subsequently strike an opponent's centre of gravity. Further, in the Australian and New Zealand context, limited assets will require the setting and sequencing of targeting priorities and the matching of the most appropriate engagement means to the target sets.

Engagement is the culmination of an integrated planning process which focuses on orchestrating the use of available engagement capabilities to support the entire campaign. To achieve effective engagement, Australian and New Zealand commanders will need a detailed knowledge of engagement capabilities, desired effects, target characteristics and the operational environment. This requires staff, supported by information systems, that provide common visibility of planning data, such as stocks of munitions, the availability and vulnerability of engagement capabilities and readiness of personnel.

The ADF and NZDF must concurrently protect their key engagement assets. Given the ADF and NZDF's limited ability to provide comprehensive protection of vital assets, infrastructure, people, information and platforms across large areas, security must focus on the co-ordinated protection of friendly critical vulnerabilities. This protection will be based on the identification of our own centre of gravity and critical vulnerabilities, and the co-ordination with other national and international security agencies to apply offensive, active and passive defence strategies to critical vulnerabilities.

ADF and NZDF commanders will need to limit the diversion of resources to the protection effort in order to maximise the capacity to conduct offensive action. Accordingly, the commander will focus on the security of those capabilities, such as air strike, airborne and amphibious task forces, which are key to the achievement of the overall operational objectives, and those critical vulnerabilities, such as Command and Control and CSS, which the enemy will target to achieve their operational objectives. The approach to security should be holistic, incorporating the management of risk; offensive, active and passive protection; counterintelligence; operations security; and information

operations. This will permit the commander to determine how best to allocate forces for the protection of capabilities vital to both immediate and long-term objectives.

From the outset, security needs to be fully co-ordinated with both the engagement operations and sustainment efforts and include co-ordination with civil security agencies. Planning should include comprehensive threat assessments which are focused on our critical vulnerabilities and the enemy's intent, particularly the implications of damage to non-military assets to both the national will and the capability to sustain the conflict.

The key element in the success of any campaign, given the distances at which ADF and NZDF units are likely to be operating from their respective support areas, will be sustainability. Accordingly, effective integration of sustainment issues into the operational planning process is essential to maintain operational momentum and freedom of action. Sustainment is the co-ordination of matched and timely support to all forces from deployment, through completion of assigned tasks, to redeployment. It requires, amongst other things, resolving competing priorities for support and utilising the civil infrastructure.

The application of operational art dictates that our operational commanders will need to balance the immediate needs of the campaign with the sustainment requirement for future operations. In striking this balance, commanders need to retain sufficient flexibility within operational plans to support branches and sequels. The logistics and personnel support processes of all those agencies involved in operational-level sustainment must be integrated with the processes for planning and conducting operations. This requires the ADF and NZDF to develop common command logistic support systems that provide visibility of resources matched to capabilities required for operations.

The ADF and NZDF will additionally draw upon the available civilian infrastructure to support operations, noting civilian support is most responsive to long lead time planning. Policies and structures that facilitate the use of the civilian infrastructure during campaigns need to be pre-planned by strategic level staff to ensure timely support. The ADF and NZDF can develop their sustainment capability through the evaluation of operations, such as OP BELISI and OP CASTALL, and theatre exercises. One result of this process will be the achievement of an understanding of the capabilities of the national resource base and the required level of reserve stockholdings.

Success in a campaign relies in large on the theatre commander's ability to plan, shape the battlespace, and sustain the tactical forces throughout all phases. Underpinning the achievement of this aim is making decisions which are superior to those of an opponent. Through decision superiority a commander seeks to deny an enemy their freedom of action and force them to be reactive, thereby increasing the ability to pursue one's own objectives and end-state.

Decision superiority is gained by making and implementing better informed, more timely and appropriate decisions at a rate faster than the enemy. Decision processes and support systems will facilitate the commander's situational awareness, aid him in applying the operational art to making, implementing and monitoring decisions and assist the timely dissemination and implementation of the commander's plan. Accordingly, the decision processes developed by commanders and staff, and the related support systems that aid the commander in making decisions, must be both robust and flexible in order to facilitate rapid decision making and timely dissemination.

For the ADF and NZDF to exploit available decision processes and support systems commanders and their staff need to be appropriately experienced, educated, trained and selected. They must regularly practice the decision processes under realistic conditions so that they are able to use them: even under extreme pressure from time, superior commanders, system degradation and disruption by the enemy. The supporting systems, infrastructure and processes therefore need to be robust, fully developed and exercised well before any campaign is undertaken. To support the achievement of this outcome the ADF has developed a joint simulation centre at the ADFWC which focuses on training and exercising commanders and staff, using a campaign setting, in the application of operational art and the development of processes that support superior decision making. Ultimately, however, commanders need to be exposed to real operations. Tours on UN missions and ADF and NZDF led operations such as OP BELISI and OP CASTALL will provide the necessary experience base from which to develop these skills.

Information systems are a critical component of a commander's situational awareness and while they do not replace the requirement for commanders to exercise their judgement, they do significantly enhance the efficiency of their decision processes. Currently the ADF and NZDF are pursuing Joint Command support systems that

effectively network all levels of headquarters and the tactical forces. To do this, they must be used intelligently and so managed as to provide a sound basis for decisions through timely access to all pertinent information, while preventing information overload. The importance of information systems to decision making make them liable to attack and this will require ongoing assessment and management of risks so that our decision processes and their supporting infrastructure are appropriately protected

The final facet of decision superiority is the understanding of the enemy's decision processes and systems and the direction of measures taken to slow or degrade them. While the commander's situational awareness and decision processes are critical to decision superiority, they may not necessarily be sufficient to remove the initiative from the enemy. Accordingly, the disruption of the enemy's decision processes will be necessary. This requires detailed knowledge of the enemy's decision-makers, their C4I, their processes and likely intentions. Each must be analysed in detail to determine the most appropriate method for its neutralisation, whether that is by avoidance, deception, interference or destruction. The aim is to influence the enemy's will and/or disrupt his ability to pursue his objectives sufficiently so as to achieve our own campaign objectives. The ADF is considering the development of an opponent force (OPFOR) at the Australian Defence Warfare Centre which will aid the development of the necessary analytical skills through the conduct of theatre level exercises. These skills can be then used during real world operations to determine likely enemy courses.

One's attempts to slow the pace or degrade the accuracy of an enemy's decision process can take any number of forms. Information operations such as PSYOPS, deception, electronic attack or physical destruction will affect an enemy's decision processes, but so too will defensive measures such as operational security, counter espionage, COMSEC, electronic protection, EMCON and counter-intelligence. In general, a blend of all these approaches should be planned and orchestrated to ensure the maximum impact on the enemy.

Overall, for the manoeuvrist approach to be truly effective, initiative and innovation will need to characterise all facets of the ADF's and NZDF's operations. These will generate an environment in which the advantages provided by flexibility and lateral thought will be constantly integrated to surprise the enemy and gain and maintain the

initiative. To achieve this, the ADF and NZDF should be committed to experimenting, testing, exercising and evaluating new operational concepts and technologies for warfighting; and developing robust joint and combined doctrine, both written and cultural, to achieve the high level of co-ordination required by the manoeuvrist approach. These operational concepts and doctrine will need to describe an agreed framework, but not be so prescriptive that they stifle innovation, flexibility and initiative.

While the manoeuvrist approach emphasises the indirect approach, it does not exclude the use of the direct approach where this is more appropriate. Neither the ADF nor NZDF can afford to develop a belief that the manoeuvrist approach equates to non violent methods that result in a rapid result. To capitalise on our high quality but limited assets there will be a requirement to select an opponent's centre of gravity and then determine when, where and how to destroy it by a combination of violent and non-violent means. In applying the manoeuvrist approach, the ADF and NZDF will need to focus on processes and systems that enable the enemy's critical vulnerabilities and intent to be accurately identified, whilst also denying the enemy an understanding of our own vulnerabilities and intent. Timely and appropriate decisions that then focus on the precise application of decisive effort against identified critical vulnerabilities will in turn require structures that facilitate rapid dissemination of orders and the assessment of risks to ensure that the results are disproportionately high compared to the resources employed.

To ensure that their commanders are competent in applying the components of operational art identified above, they need to conduct exercises that take the output from planning exercises and test them in simulated and field exercises, and ultimately on operations. Recently the ADF has aimed to achieve this outcome through the TENDI RUN and CROCODILE series of exercises.¹³⁴

The NZDF, for its part, integrates with the ADF at the single service and tactical level through combined exercises, such as Fleet concentrations and the activities completed by 75 Squadron at Nowra. Similarly, strategic planning exercises, such as KINGFISHER 97, practise combined strategic planning processes. However, apart from real world planning, little has been done to exercise at the joint HQ level. Ideally the NZDF should

¹³⁴ The TENDI RUN series of exercises are dual level CPX which involve planning and wargaming by HCAST and either HQNORCOM or the DJFHQ in a theatre scenario. The CROCODILE series of joint and combined field exercises are held annually.

participate in the operational level exercises conducted annually by the ADF in order to expose commanders and staff to campaign planning. That said, recent combined deployments to Bougainville and East Timor are effectively synthesising ADF and NZDF joint and combined planning processes.

Collectively, both Defence Forces now need to seize the opportunities presented by OP BELISI and OP CASTALL and refine current operational level structures, processes, systems and doctrine. Bougainville and East Timor have demonstrated that ADF and NZDF led operations, supported by the US, will become the normal practise within our shared region of interest. However, the level and scale of these operations suggest that they are only dress rehearsals for much larger ones to come. The operational level and the ability of the ADF and NZDF to plan, orchestrate and sustain campaigns will become increasingly important. Accordingly, they need to combine the lessons from past campaigns with those of current ones in order to prepare the ADF and NZDF to successfully apply operational art in future campaigns.

In conclusion the successful application of operational art by the ADF and NZDF requires the analysis of historical lessons and the combining of their unique strengths with available and emerging technologies. In combination these factors will assist in creating well considered planning and doctrinal approaches. This thesis has attempted to contribute to the continuing debate on operational art. It acknowledges that the ADF has adopted this model in recognising that doctrine and technology are essential components of its conceptual approach to the development and preparation of its military capabilities. There are signs that the NZDF is starting to develop a similar philosophy by articulating an operational concept that will shape the development of its joint command and control capabilities. However, to succeed they need to develop commanders and staff that are confident in planning and executing campaign plans that out manoeuvre an opponent to the point where they are both psychologically and physically defeated. This end-state requires active debate, training and exposure to real world operations by commanders and staff. Perhaps East Timor will provide the necessary theatre and operational conditions for the ADF and NZDF to validate and further develop their operational level doctrine and training to date.

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