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MANOEUVRE WARFARE THEORY AND THE TACTICAL LEVEL OF WAR

**A Thesis presented in partial fulfilment of the
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TRENT CORBETT

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ABSTRACT

This thesis will determine the degree to which contemporary Manoeuvre Warfare theory is appropriate at the tactical level of war. In order to arrive at a basic working definition of Manoeuvre Warfare, it will draw mainly on material from the US Marine Corps. Contemporary military doctrine acknowledges the existence of three levels of war, the strategic, operational, and tactical. This was not always the case, as the operational level is a very new construct. Manoeuvre Warfare emerged as a response to the need to link the tactical and strategic levels that resulted in the inception of the operational level. While conceived at the operational level, Manoeuvre Warfare has been applied to all three levels of war. This thesis examines the context of Manoeuvre Warfare, and looks at how the US Marine Corps defines this doctrine. It then defines the three levels of war and looks at the main examples used to support manoeuvre theory before investigating the application of manoeuvre theory at the tactical level of war. This thesis will show that some key aspects of Manoeuvre Warfare are not actually appropriate at the tactical level.

**The views expressed in this paper
are the author's own and are not
an indication of New Zealand
Defence Force Policy**

TABLE OF CONTENTS

INTRODUCTION	1
THE CONTEXT OF MANOEUVRE WARFARE	4
The Historical Basis of Manoeuvre Warfare Theory	4
The Influence of Technology on the Development of Manoeuvre Theory	10
Confusion in Combat	12
Manoeuvre Theory as a Reaction to Attrition	15
The Aim of Manoeuvre Warfare	18
MANOEUVRE THEORY IN THE US MARINE CORPS	22
Tempo	22
Achieving Tempo through Allowing Subordinates to Use Initiative	30
Mission Tactics	38
Main Effort	43
Will to Fight	61
Dislocation and Disruption	67
The Initiative	70
Creating a Dilemma	76
THE LEVELS OF WAR	80
HISTORICAL EXAMPLES OF MANOEUVRE WARFARE	87
MANOEUVRE WARFARE AT THE TACTICAL LEVEL OF WAR	108
CONCLUSION	139
ENDNOTES	152
REFERENCES	163

INTRODUCTION

The Vietnam War proved to be a watershed in western military doctrine. Improvements in communications technology and the television, which not only combined the mediums of moving pictures and sound but also allowed them to be broadcast into family homes across the world, had a huge impact on the public's attitude towards war. Previously the public had only been able to view war through the somewhat sanitised mediums of print and cinema newsreels. There was less emotional connection between casualty figures in newspapers, and the pain and suffering among the soldiers contributing to those figures on the battlefield. The television reporting of the Vietnam War, however, brought the horror of war from the jungles and rice paddies of Vietnam into the lounges of America and much of the Western world.

In the United States (US), the public outcry against the war in Vietnam, and the United State's eventual withdrawal after an unsuccessful conclusion, induced a new wave of thinking about how the United States should fight wars. One answer, drawing on historical concepts and examples from the ancient Chinese military theorist Sun Tzu, the Prussian military, Sir Basil Liddell-Hart, and the German Wehrmacht of the Second World War, was Manoeuvre Warfare. Manoeuvre Warfare challenged the established doctrine in the US Army and Marine Corps (USMC), which saw manoeuvre as subordinate to firepower. At that time, the role of manoeuvre was to ensure that firepower would be concentrated to the degree necessary to defeat a numerically superior enemy through attrition. The writings of William Lind

and Richard Simpkin brought Manoeuvre Warfare to the attention of the US Marine Corps, where it was adopted as doctrine.

Writing in the *Marine Corps Gazette*, Major Kenneth McKenzie Jr, USMC, described the fall from grace of the firepower-focused doctrine as a product of its failure to offer a means of achieving decisive victory. He wrote: “Since attrition – a favourable exchange ratio – was the goal, it was difficult to shape battles for a larger purpose: the annihilation of the enemy.”¹ The purported advantage of manoeuvre theory over its predecessor, its ability to ensure that battles are shaped so that they serve a higher purpose, places the realm of Manoeuvre Warfare in the operational level of war. However, a number of nations throughout the world have adopted manoeuvre theory not only at the operational, but also the strategic and tactical levels of war. This thesis will determine the degree to which contemporary Manoeuvre Warfare theory is appropriate at the lowest level of war, the tactical level.

One of the criticisms aimed at Manoeuvre Warfare is that there are so many differing views on what it actually is that a concrete definition is impossible. This is to be expected. No two nations or forces will fight in exactly the same way. Differences between their strategic goals and environments, and their cultures will shape their doctrine into something unique.

To arrive at a basic working definition, this thesis will draw mainly on material from the organisation that has been experimenting with and developing Manoeuvre Warfare theory over the longest period of time: the US Marine Corps. This material includes both the *Fleet Marine Force Manuals* (FMFMs) and *Marine Corps Doctrinal Publications* (MCDPs) that have laid

down the official US Marine Corps doctrine of Manoeuvre Warfare in print. Extensive use has also been made of the many articles and opinions expressed in the *Marine Corps Gazette*, which has encouraged free and frank discussion from US Marines both for and against Manoeuvre Warfare.

The following pages will first place Manoeuvre Warfare theory in its context, before going on to determine how the US Marine Corps defines Manoeuvre Warfare. They will then clearly establish the framework of the three levels of war, and examine the main historical examples used by supporters of manoeuvre theory. Finally, this analysis will look at each aspect of Manoeuvre Warfare and its strengths and weaknesses at the tactical level of war. This thesis will show which aspects of manoeuvre theory are appropriate to the tactical level of war, and which are found wanting.

THE CONTEXT OF MANOEUVRE WARFARE

The Historical Basis of Manoeuvre Warfare Theory

Manoeuvre Warfare is seen by many as an innovation of the last few years. At first glance the proliferation of tanks and various light and highly mobile armoured vehicles seems to empower this type of warfare with their great mobility. Manoeuvre Warfare, however, is more than mobility. It is a way of thinking. The various principles that combine to make up this theory have existed for hundreds, and in some cases thousands, of years prior to Manoeuvre Warfare's creation as explicit written doctrine.

In the United States Marine Corps Manoeuvre Warfare is nothing new. Debate on the topic has raged for more than twenty years. In 1980 William S. Lind published an article in the *Marine Corps Gazette* entitled 'Defining Maneuver Warfare for the Marine Corps.' This article proved to be a catalyst for a flood of writing and thinking on the subject. Various military thinkers sought the development and implementation of a new way of war, including Richard Simpkin with his seminal book *Race to the Swift*.² This deluge of writing and thinking was not lost on senior officers within the US Marine Corps. In 1981, Major General A.M. Gray assumed command of the 2nd Marine Division. According to Major Kenneth McKenzie, USMC, "An aggressive innovator and manoeuvrist, he soon transformed the 2d Division into a virtual cauldron of bubbling, evolving doctrine."³ One of his initiatives was a 'Battle Book' for subordinate commanders that codified Manoeuvre Warfare principles by functional area. The four key areas that he identified were the OODA loop, mission tactics, commander's intent, and the point of

main effort.⁴ Gray sought to create an atmosphere within the Division that nurtured mission tactics under the principle of commander's intent. With Manoeuvre Warfare flourishing in the 2nd Division, General Gray became Commandant of the US Marine Corps in 1987. Spreading this new approach to warfighting from the top down, he published *OH 6-1, Ground Combat Operations* in 1988, which discussed manoeuvrist thinking in both the offence and the defence.⁵

While the US Marine Corps may have worked towards the construction of manoeuvre theory for the last 20 years, the ideas and principles that make up that theory are much older. The term *Auftragstaktik* – 'mission tactics' – was first used soon after World War Two, but the idea itself had existed much longer.⁶ In fact, the Prussian army had become advanced in the use of mission tactics (telling subordinates *what* to do, and leaving it up to them to figure out *how*) by 1815 – the final year of the Napoleonic Wars.⁷ *Auftragstaktik* first entered official usage in the Prussian *Exerzier-Reglement* of 1806. Here, an army commander would show his divisional commanders the ground and explain to them his intent, leaving up to them what they would actually do to achieve his intent.⁸

Later, Helmuth Graf von Moltke, Chief of the General Staff (CGS) of Prussia and Germany between 1858 and 1888, encouraged *Auftragstaktik* as official doctrine. This was largely due to faults he perceived in the culture of the Prussian military. Many senior commanders were princes appointed for dynastic reasons, rather than their military skill and knowledge. Their lack of warfighting ability increased the difficulties of central command in that some of these princes "were too confident in their own abilities and were not

amenable to receiving orders from men of a lower social standing.”⁹ Another requirement of mission tactics, officers who operate according to a common doctrine, was achieved through the German system of selection and training of General Staff officers.¹⁰

The policies of the next Imperial German CGS, Count Alfred Graf von Schlieffen, were a step away from mission tactics. He expected his subordinates to follow orders to the letter in nearly every circumstance.¹¹ Fortunately for mission tactics, the utility of this style of command had not been lost on Schlieffen’s successor as CGS (the nephew of Moltke the elder) and mission tactics and initiative were accepted as doctrine again.

The need for subordinates to assess the situation and make decisions without having to refer to higher headquarters is a crucial aspect of mission tactics. This too, had a long history in the Prussian military, as Prince Frederick Charles observed in 1860 “[It] seems to me to lead to the conclusion that in the Prussian corps of officers nowadays *there is a stronger desire for independence from above and for taking responsibility upon one’s self than in any other army.... This habit of thought has undeniably had an influence on our battle tactics.* Prussian officers object to being hemmed in by rules and regulations.”¹² [emphasis original]

This culture of initiative was obvious to at least one of Prussia’s vanquished enemies. Shortly after the Franco-Prussian war, a French lecturer at the *École Supérieure de Guerre* told his students that “[Prussian] NCOs and soldiers were exhorted, even obligated to think independently, to examine matters and form their own opinion.”¹³

These views were given written authority in 1906, when a paragraph was inserted into the chief German army manual that obliged officers to trust their initiative if they sincerely believed that the mission was appropriate to the battlefield situation.¹⁴ This pattern of thought continued through to Moltke's General Headquarters in 1914, where his governing idea was that he should interfere as little as possible with the armies. "After all, the armies maintained contact with the enemy, and therefore had a clear image of the situation and should not be hampered in their decisions."¹⁵

Many commanders throughout history have also stressed *tempo* (a force's rate or rhythm of activity) the most important element in Manoeuvre Warfare. Around 400 BC Sun Tzu pronounced that "Rapidity is the essence of war: take advantage of the enemy's unreadiness, make your way by unexpected routes, and attack unguarded spots."¹⁶ Sun Tzu also urged commanders to maximise tempo by acting on their initiative, instead of waiting for orders from their superiors.¹⁷

Frederick the Great (King of Prussia from 1740-1786) was also known for his emphasis on tempo. He often fought outnumbered, and so was compelled to rapidly concentrate his troops and act against one enemy force before others got close enough to give assistance.¹⁸ This is the concept of fighting on interior lines. One witness described Frederick's ability to transform his army from one activity on the battlefield to another as "like a change of scene at the opera."¹⁹

Later, Moltke the Elder sought to institutionalise rapid tempo in his forces. He taught warfighting through problems to be solved, rather than the traditional method of precepts to be remembered. The main forms these

problems took were *Freikriegsspiele*, two-sided, refereed wargames, *Planspiele*, one-sided tactical decision games, and *Stabreise* (staff rides), problem solving exercises for senior officers. Common to all of these was the importance they placed on rapid decision making. "Although the student was expected to give a rationale for his decision, sound judgement was not enough. Under strict time pressure, the student had to consider the general situation, absorb information about what was going on in his immediate surroundings, make a decision, and then give orders to his unit. In the terminology of modern American Manoeuvre Warfare, he was expected to observe, orient, decide, and act more quickly than his opponent."²⁰

Heavily influenced by the German approach to warfighting, Sir Basil Liddell-Hart saw superior tempo as one of the key reasons behind the German victory in France in 1940. French counter attacks proved futile, as their timing was too slow to be effective in the rapidly changing situation. "The French, trained in the slow-motion methods of the First World War, were mentally unfitted to cope with the new tempo, and it caused a spreading paralysis among them."²¹ Current US Marine Corps doctrine is not the first to consider tempo to be critically important. Many intuitive commanders have held it in high regard for more than 2000 years.

Like tempo, the concept of surfaces and gaps, expressed as avoiding enemy strengths and attacking weaknesses, can be found throughout history. Sun Tzu likened an army to water "for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness."²² Liddell-Hart offered a similar explanation in his 'expanding torrent' theory, and suggested that armies follow the line of least resistance, in

order to attack rear areas. He believed that this would cause great panic, making the enemy think that the battle was already lost, and thus accelerating their collapse.²³ Again, one of the central aspects of modern manoeuvre theory finds its roots in the past.

The notion of *Schwerpunkt*, a term widely associated with manoeuvre theory, also has a long history. Clausewitz was the first to use the term in the 1820s, borrowing it from physics. Although first defined in an official military context by the Reichswehr (Imperial Army) in the 1920s, it was central to German military thought by the 1870s.²⁴ US Marine Corps Manoeuvre theory takes a different approach, largely ignoring the use of *Schwerpunkt*, which it calls ‘focus of effort,’ replacing it instead with ‘Main Effort.’ The Main Effort is essentially a single unit, whose combat power has been bolstered by the addition of reserves or fire support, while a *Schwerpunkt* is the enemy unit or area that friendly forces concentrate against. The use of the Main Effort against an enemy weakness can hardly be considered a modern concept either. Again, the works of Sun Tzu reveal this: “Use the most solid to attack the most empty.”²⁵

One of history’s more notable exponents of manoeuvre theory’s emphasis on attacking the enemy’s will can be found in the mid-nineteenth century French Army Colonel Ardant du Picq. His book *Battle Studies* is a classic comment on morale in war. His observation that “weapons are only effective insofar as they influence the morale of the enemy”²⁶ echoes the contemporary manoeuvrist approach of targeting the enemy’s will to fight over their physical combat forces.

While Manoeuvre Warfare has existed as a topic of debate in the US Marine Corps for over 20 years, its basic, underlying elements have been around much longer. Auftragstaktik, the use of initiative by subordinates, and Schwerpunkt all find their roots in the nineteenth century, while origins of the theory of surfaces and gaps, and the critical 'tempo' both emerge from the fourth century BC writings of Sun Tzu. The collection of ideas and their merging into one coherent theory should not detract from the fact that those concepts have existed for much longer than the theory itself.

The Influence of Technology on the Development of Manoeuvre Theory

Technology has a profound effect on warfare. If one combatant possesses a technology that their enemy lacks, it can prove to be a decisive advantage. If neither side possesses a decisive technological advantage, the result could all too easily be a stalemate. In Germany, advances in technology forced the development of a new way of waging war.

Technological advances in weaponry and munitions increased dispersion of troops on the battlefield, and in doing so forced the development of manoeuvre theory. The standard musket used by Napoleonic armies had a rate of fire of two to three rounds per minute, and an effective range of about 100 metres. The magazine rifles of the First World War could fire 15 rounds per minute out to an effective range of 1000 metres. This massive increase in the volume of infantry fire was augmented even further by the development of the machine gun. Commanders faced a dilemma. They could adopt looser

formations and accept reduced direct control over their troops on the battlefield, or they could retain dense formations, and risk prohibitively high casualties.²⁷

The combination of dispersion necessary for troops to survive, and the resulting confusion and chaos in the modern battle made control from the top down problematic. Whereas earlier commanders had been able to see the entire field of battle, as their troops advanced into combat crowded shoulder to shoulder, distance now separated commanders from their troops. In Germany, this forced the development of a new style of warfare, in which subordinates had to understand the overall objective and adapt their responses to the tactical situation as it unfolded and changed around them.²⁸

Prior to the First World War, Germany realised that in the event of war, it might have to fight on two fronts, primarily against France and Russia. Germany saw its ability to fight such a war on internal lines as an advantage. It sought to build on this advantage by creating a qualitative superiority over its enemies. This could be achieved in a number of ways. In 1870, technology had given Prussia an advantage over the French, its Krupp steel breech loading cannon proving superior to the French bronze muzzle loaders. German commanders believed that any technological advance would soon be copied, so they sought superiority in intangibles, primarily training and command.²⁹

On the eastern front in the First World War, railroads proved to be a manoeuvre-enabling factor. The massive distances involved made it impossible to establish a continuous front line like that which existed on the Western Front. Germany had an extensive rail system in the rear area, while

the Russians did not. This allowed them to transport units and supplies to various parts of the theatre far faster than the Russians could move their forces, allowing the concentration of strength against weaknesses.³⁰

Technology forced commanders to disperse their troops over huge distances, unable to command each of their subordinates personally, they found themselves forced to delegate more authority to their subordinates. German commanders realised that superiority in technology would be fleeting at best, and that more could be achieved through a superior system of command and control. On the Eastern Front, the vast distances involved in the fight for Russia prohibited a continuous front, and Germany was able to exploit the resulting gaps through its superior railroad network.

Confusion in Combat

The belief that war takes place in a medium of confusion is one of the central precepts of Manoeuvre Warfare. Acknowledging this and adapting training and techniques not only to help overcome, but also to exploit this confusion has played a part in the development of manoeuvre theory.

War takes place in a state of confusion. US Marine Corps doctrine acknowledges the fact that while warfighting may seem a straightforward activity, because of the countless factors that influence it warfighting becomes extremely difficult.³¹ “War is the domain of the uncertain, of friction, and often of chaos. It will likely remain so, since war is fought not by machines, but by soldiers using machines. Thus it is a contest between opposing wills

and minds whose reaction in an environment of danger and death cannot be predicted.”³²

Acceptance of war as chaotic is evident throughout German military history. Clausewitz was among the first to name this chaos, calling it ‘friction’ – “the force that makes the apparently easy so difficult.”³³ This view of combat as inherently chaotic led the German military to develop a style of warfighting in which the exploitation of unexpected and fleeting opportunities was essential. Schlieffen considered the history of war to be a catalogue of generals’ mistakes and that the aim of a commander should be “to identify and exploit to the full the inevitable errors committed by the enemy.”³⁴

This philosophy sowed the seeds of decentralised decision making in the German military; it made the use of initiative by junior commanders on the battlefield essential. If commanders were to exploit opportunities in a timely manner, they would not always be able to seek permission from their superiors, they would need the authority to make decisions based on the situation themselves. Training and tactics also changed to come into line with this view. According to Martin Samuels “The philosophy of chaos results in a demand for a very high level of training of both individuals and units and that the tactics used emphasise adaptability to circumstances and rapidity of response.”³⁵ The German military had a philosophy that saw war as chaotic, and adapted its way of fighting to exploit this.

An important aspect of this confusion is that, not only do commanders accept that they will have to fight under its influence, but that they can force it on the enemy. During the Second World War, Germany sought to do this through strong reconnaissance-pull attacks. These are inherently disorderly, as

even the overall commander has no idea of which thrust will ultimately become the main attack. During the German invasion of France in 1940, the French reported each major German reconnaissance thrust as a new attack.³⁶

Schlieffen recognised the benefits of creating confusion, and saw the need for “the enemy, surprised by the suddenness of the attack, to become more or less confused, thus following up his rash decisions with a hasty execution.”³⁷ He believed that the actions of the enemy force would become increasingly ineffectual, entering a state of high stress, followed by a collapse of its central nervous system. This would leave the enemy largely unresponsive, and able to be annihilated with relative ease.³⁸

This is essentially the philosophy of the Boyd cycle, or OODA loop. Forces observe each other, orientate themselves to deal with what they have observed, decide what action they will take, and then act (Observe, Orient, Decide, Act – OODA). If one side can repeatedly go through this cycle faster than the other, they will have consistently changed the situation before the enemy acts, making their enemy’s actions increasingly inappropriate and irrelevant.

War takes place in an environment of confusion, and this environment will continue to exist for as long as human minds control the course of war. This belief has driven the German military’s philosophy of war at least since Clausewitz defined his theory of friction, and has forced the development of some basic components of manoeuvre theory, including junior commanders acting on initiative, and the creation of confusion in the enemy. This need not only to operate as well as possible in an environment of confusion, but to

impose that confusion on the enemy, is an important aspect of modern manoeuvre theory.

Manoeuvre Theory as a Reaction to Attrition

To many military theorists, there are two ways to fight wars: by strategies of attrition or of manoeuvre. In the US Marine Corps, the move to a manoeuvre based doctrine occurred largely because of an 'intellectual backlash' towards attritional theory.

In order to understand manoeuvre theory developing as a reaction to attrition, one must first understand what attrition theory actually is. At its most basic level, attrition theory is a way of fighting wars in which the friendly force attempts to destroy the enemy force by destroying the enemy's mass.³⁹ This 'mass' is made up of material assets, tanks, guns, munitions, people and so on.

There are three key concepts in attrition warfare:

1. Initial force ratios: The real or perceived numerical superiority of one side or the other;
2. Loss ratios: The rate in losses in men and material by both sides as a result of battle; and,
3. Functional exchange ratios: Expressed algebraically as the loss ratio over the initial force ratio.

To be successful in an attritional conflict, one side must improve its force ratio by sustaining an acceptable loss ratio over the enemy.⁴⁰ To manoeuvrists this reduces warfare to a simple mathematical process, denying the influence of any 'human factors.'

Attrition theory is seen as a 'bottom up' approach to warfighting, as the attritionist seeks to bring the enemy to battle, and then defeat him in that or subsequent battles. The success or failure of those battles dictates the course of operations, and ultimately strategy.⁴¹

Manoeuvre, on the other hand, is considered the opposite of attrition. It is driven from the top, in that strategy and operational art dictate *which* battles need to be fought, *if any*. Attrition seeks to erode the enemy's physical ability to resist, making his will to do so irrelevant, whereas manoeuvre seeks to erode his mental strength, making his ability to do so irrelevant.

In the US Marine Corps, manoeuvre theory developed as a reaction to what some perceived was an overly attrition-based approach to warfighting. Lieutenant Colonel George Lauer, USMC, gave this description of warfare in the US Marine Corps prior to the proliferation of manoeuvre theory:

Warfare for the Marine Corps was intensely personal: a "brutish, inglorious" experience against strong enemies ill-disposed to moral disruption or surrender. In our experience, victory over an enemy occurred as the result of his annihilation. The nature of war demanded the crossing of no man's land. Marine Corps doctrine stressed the practical nature of war, combining fires and movement to close with an enemy. Our enemies did not collapse morally or physically until we closed with them and killed them.⁴²

Lauer argued that supporters of manoeuvre theory saw this approach as too focussed on the destruction of the enemy's physical assets; too centred on the battle.

In 1976, the US Army published its new operational doctrine, *Active Defense*, which was conceived with a confrontation between NATO and the Warsaw Pact in mind. This document came under heavy criticism as it emphasised the importance of firepower over manoeuvre, and was based on attrition theory, an approach that its opponents believed would play into the hands of the perceived threat. Among those who found fault in the theory was Edward Luttwak, whose proposed solution was a style of warfighting which sought 'systematic destruction' (the incapacitation and/or collapse of the enemy's whole system) rather than 'cumulative destruction' (the result of a series of attritional engagements). He sought to achieve this through high tempo and simultaneity (posing so many dilemmas that the enemy's command and control system overloads and collapses).⁴³ With the Vietnam War still fresh in the minds of the American public, *Active Defense* would have seemed to offer few solutions to the problems encountered in the Asian jungles.

William S. Lind was another critic of *Active Defense* with similar theories to Luttwak. His 1980 article in the *Marine Corps Gazette*, 'Defining Maneuver Warfare for the Marine Corps,' proved to be the catalyst of a large debate on the topic.⁴⁴ Many commentators throughout the US joined in the debate, proposing various alternatives to the 'attritional approach.' Despite the vast differences between some of these ideas, all were given the name 'Manoeuvre Warfare.'

Much of the reaction to attrition theory proved highly emotive. According to historian David Palmer: "Attrition is not a strategy. It is, in fact, irrefutable proof of the *absence* of strategy. A commander who resorts to attrition admits his failure to conceive of an alternative. He rejects warfare as

an art and accepts it on the most non-professional terms imaginable. He uses blood in lieu of brains.”⁴⁵ Robert Leonhard referred to “attrition addicts” who, if they could appreciate war’s intangibles at all, saw them “only as combat multipliers with which to fight the attrition battle better.”⁴⁶ The reaction to attrition proved both passionate and long lasting.

The development of Manoeuvre Warfare theory was partly driven by a reaction to the attrition-based doctrine, based around trying to achieve a superior functional exchange ratio to the enemy, that was proposed in *Active Defense*. This doctrine was easily denounced as being too mathematical in its approach to warfighting. Manoeuvre Warfare offered an alternative to this battle-focused doctrine.

The Aim of Manoeuvre Warfare

It seems to many that wars are won by the side that inflicts the most death and destruction on their adversary. Manoeuvre Warfare is a step away from this approach. Death and destruction still has its part to play, but only in so far as the enemy commander’s *mind* comes to believe that it has endured too much.

The aim of Manoeuvre Warfare, according to the US Marine Corps is “to render the enemy incapable of resisting by shattering his moral and physical cohesion his ability to fight as an effective, coordinated whole rather than to destroy him physically through incremental attrition, which is generally more costly and time-consuming.”⁴⁷ The manoeuvrist tries to create

the belief in the minds of the opposing commanders that, for them, the battle is lost, whether that is actually the case or not is irrelevant.⁴⁸

The foundation for this theory is a notion that the enemy's ability to resist is made up of two factors, the physical means at his disposal, and the strength of his will. Therefore, in attempting to overcome an enemy's ability to resist we have two choices: we must eliminate his physical ability to do so, or destroy his will to resist.⁴⁹ As Lind wrote in his 1980 article *Defining Maneuver Warfare for the Marine Corps*, in *Manoeuvre Warfare*, the latter option is the primary goal: "destruction of the enemy's vital cohesion – disruption – not by physical set-piece destruction. The objective is the enemy's mind, not his body."⁵⁰ In war, says General A. A. Vandegrift, USMC, defensive positions are rarely lost because they have been destroyed, but because their leader has formed the impression in his mind that they cannot be held.⁵¹

Manoeuvre theory acknowledges the fact that warfare is something more than the movement of firepower into a position where it can erode the enemy's means of utilising his own firepower to erode our sources of firepower. Unlike attrition theory, which views the human role in combat as little more than another of the enemy's weapons to be destroyed, manoeuvre theory acknowledges the influences that thinking, fearing soldiers have on war. After all, some of the intangibles that make up combat power, "the total destructive force we can bring to bear on the enemy at a given time", include morale, fighting spirit, perseverance, and the effects of leadership.⁵² War is a clash between opposing human wills, and according to the US Marine Corps' *FMFM 1 Warfighting* "any doctrine which attempts to reduce warfare to ratios

of forces, weapons, and equipment neglects the impact of human will on the conduct of war and is therefore inherently false.”⁵³

This does not produce a theory of war that seeks to avoid physical combat with the enemy. Combat, or at least the threat of combat, still has an important role to play. Major David Grossman, US Army, wrote that examinations of aerial and artillery bombardments have shown that they are psychologically effective, but that this is only the case in the front lines where they are combined with the threat of attack by ground units. This is why artillery bombardments during the Second World War produced vast numbers of psychiatric casualties, but strategic bombardment did not seem effective in breaking the enemy’s will. “Such bombardments without an accompanying close-range assault, or at least the threat of such an assault, are ineffective and may even serve no other purpose than to stiffen the resolve of the enemy!”⁵⁴ Fighting has an important part to play.

Attacks on the enemy’s will to resist may even reduce his physical ability to do so. Through the destruction of the enemy’s C² (command and control) systems and communications, his units may lose their cohesion, their ability to react in a coordinated and effective manner. As Liddell-Hart stipulated in *Strategy: The Indirect Approach*, the aim of strategy 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 battle is sure to achieve this.”⁵⁵

Both Napoleon and Sun Tzu demonstrated an understanding of this way of thinking. According to Napoleon: “in war, the moral is to the material as three is to one.”⁵⁶ Sun Tzu wrote: “Break the will of the enemy to fight and

you accomplish the true objective of war... Prevail if possible without armed conflict. The supreme excellence is not to win a hundred victories in a hundred battles. The supreme excellence is to defeat the armies of your enemies without ever having to fight them."⁵⁷ These two great influences on military thought and practice both recognised the central role of human will in warfare.

Manoeuvre theory is based on the understanding that an enemy's ability to resist is made up of two factors, his physical ability to do so, and his will to do so. In attempting to defeat an enemy, Manoeuvre theory seeks to destroy his will, as opposed to his physical forces. In doing so, Manoeuvre theory acknowledges both that war is a conflict of human wills, and that combat power is made up of three elements: firepower, manoeuvre, and morale. In targeting the enemy's will, the manoeuvrist does not deny the need for combat, and finds historical precedent in the works of Napoleon and Sun Tzu.

MANOEUVRE THEORY IN THE US MARINE CORPS

Tempo

Tempo is a central aspect of Manoeuvre Warfare. It encompasses the notions of maintaining initiative through rapid decisionmaking and defeating the enemy's mind that are so often associated with manoeuvre theory. The clearest expression of this view of tempo can be found in the work of John Boyd.

The US Marine Corps defines tempo as a rhythm of activity, and draws a distinction between tactical tempo (the pace of events within an engagement) and operational tempo (the pace of events between engagements).⁵⁸ This definition does not quite incorporate the whole idea of the word. Tempo must be seen not in absolute, but relative terms. British doctrine provides a more comprehensive definition of tempo as "rate or rhythm of activity relative to the enemy, within tactical engagements and battles and between major operations. It incorporates the capacity of one force to transition from one operational posture to another."⁵⁹

High tempo alone may prove insufficient. One's tempo must be higher than that of the enemy. Major General John Kiszely, British Army, acknowledges that we do not have to focus purely on increasing our own tempo as we can also attempt to erode the enemy's, thus "imposing on *him* the Clausewitzian 'friction' from which we seek to escape."⁶⁰ In the First World War, Allenby broke through the Turkish line at Meggido. Despite routing his

enemy, he advanced on average less than ten miles every day, yet this was more than the Turks could handle, and they were never able to reconstitute their defence.⁶¹

Tempo is something more than the ability to physically move fast; that is manoeuvring in space. It is also manoeuvre in time, generating a faster rate of activity than the enemy. *FMFM 1 Warfighting* acknowledges that "It is through maneuver in *both* dimensions [speed and time] that an inferior force can achieve decisive superiority at the necessary time and place."⁶² Tempo is rhythm of activity relative to the enemy. For a complete comprehension of the concept, one must look to the work of John Boyd.

The work of retired Air Force Colonel and fighter pilot John Boyd explains the time-competitive aspect of manoeuvre theory. Initially studying air combat, Boyd then turned to combat on the ground, to determine if his theory applied here also. Boyd's studies of mock air combat at Nellis Air Force Base in 1974 lead him to research air combat during the Korean War, where American pilots claimed a 10:1 kill ratio over their Chinese and North Korean opponents.⁶³ Boyd noted that this impressive kill ratio was achieved despite the main communist fighter, the MiG-15, being superior to its American counterpart, the F-86, in a number of traditional measures of aircraft performance. It could climb and accelerate faster, and had a superior sustained turn rate.

However, the F-86 was superior in two less obvious areas. Its bubble canopy allowed the pilot an unobstructed 360-degree field of vision, unlike the MiG's faired cockpit that restricted the pilot's view to the rear. The F-86 also had hydraulic controls, which allowed it to transition from one

manoeuvre to another faster than the MiG. In combat, each time the MiG undertook an action, the F-86 gained a time advantage; its pilot was better able to see how the situation had changed, and could adopt a new action more appropriate to the situation quicker than the MiG. With each change, the MiG's actions became less appropriate to the situation until the F-86 was presented with a clear firing opportunity. Often, the MiG pilot would realise what was happening and panic, making the F-86 pilot's job easier.⁶⁴

This lead Boyd to view conflict in terms of time-competitive cycles of observation-orientation-decision-action; these are the so-called OODA loops. Each party in a conflict would observe the situation and then orient by building a mental picture of that situation. On the basis of this mental picture they would each make a decision to do something, and then act. This action would change the situation forcing each party to observe again and repeat the cycle.⁶⁵ If one participant can consistently go through this cycle faster than their opponent, then that participant will gain an advantage.

Eventually, by the time the slower party acts, their opponent is doing something different to what they had observed and based their action on. With each cycle, the slower party's actions become more and more inappropriate, until they cease to be effective at all.⁶⁶ While the faster party repeatedly cycles inside his opponent's OODA loop, in the words of William Lind "the opponent finds he is losing control of the situation... Often he suffers mental breakdown in the form of panic or passivity and is defeated before he is destroyed physically."⁶⁷ In the case of the F-86 and the MiG-15, the American aircraft's bubble canopy allowed the pilot to carry out the observation phase

of the OODA loop faster than his opponent, while the hydraulics allowed him to implement the chosen action faster than the MiG pilot could.

Boyd then studied other forms of combat, trying to determine if there were any valid comparisons. He found that a number of battles and campaigns mirrored his theory of OODA loops. Battles as diverse as Cannae, Agincourt, Austerlitz, Chancellorsville, Midway, Khe Sahn and Kuwait all shared a common phenomenon: one side had presented the other with a sudden, unexpected change or series of changes, which the other side found itself unable to respond to effectively.⁶⁸ Boyd's theory of the OODA loop found applicability outside of air combat.

For manoeuvrists, the application of Boyd's theory to warfare on land changed the aim of combat from destroying the enemy to defeating him. They acknowledged that it is possible to achieve the latter without having to achieve the former. After all, why seek the destruction of an enemy when the situation might allow us to use fewer resources and force them to give up? Manoeuvre theory proposes that the enemy is defeated not when he is destroyed, but when a nervous/mental/systematic breakdown is imposed on him. This occurs when the enemy realises that they have lost control of the situation, which is a product of our ability to consistently complete OODA loops faster than they can.⁶⁹ The enemy must believe that they have lost control, that they can no longer influence the situation in any effective manner. This is the basis for the current US Marine Corps definition of Manoeuvre Warfare as "a warfighting philosophy that seeks to shatter the enemy's cohesion through a variety of rapid, focused, and unexpected actions

which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope.”⁷⁰

The ‘mental collapse’ that Manoeuvre Warfare aims to inflict on the enemy can be achieved through the maintenance of a superior tempo, that is, completing OODA loops faster than the enemy. By working faster than the enemy works, we can cripple his ability to make meaningful and relevant decisions by generating a series of problems at a rate faster than he can solve them.⁷¹ Our tempo must be consistently quicker than the enemy’s; an advantage gained must be exploited. Through maintaining relentless pressure, the enemy finds they are unable to recover effectively. The US Army’s *FM 100-5 Operations* stresses that using tempo to put pressure on the enemy is critical to achieve success in battle. A superior tempo keeps the enemy off balance, and when properly exploited, can confuse and immobilise the defender to the extent that the attack is unstoppable.⁷² Manoeuvre Warfare seeks defeat as its main goal, and defeat is not necessarily accompanied by significant destruction. The means of achieving that defeat is tempo.

Achieving Tempo through Decentralisation

Decentralised command is a means of increasing tempo. This system of command calls for decisions to be made at the lowest possible level. This removes the tempo drag associated with having to clear a decision through a chain of command. It has the advantage of the person on the scene, and thus with the best appreciation of their immediate situation and the most

appropriate response, making the decision. Manoeuvre Warfare emphasises the use of this means of achieving decentralised command over the others.

A force with decentralised command will be able to carry out the decision phase of the OODA loop faster than a force that has to clear its decisions through the chain of command. The latter force must pass its observations up a command chain so that the orientation and decision can be made at a higher level, and then wait for that decision to be transmitted back down to the original unit, slowing the Boyd cycle.⁷³ Weber and Furness explained the effects of such a system in their article *The NCO and Maneuver Warfare*: "Hampered by the need to clear all decisions before executing, the junior leaders atrophy. Action at the point of contact slows to a crawl. Opportunities and battles are lost."⁷⁴ Decentralised command is necessary if forces are to take advantage of fleeting opportunities instead of allowing their tempo to falter.

This is an important aspect of the reconnaissance-pull methods that Manoeuvre Warfare encourages. Such techniques permit those at the lowest levels (corporals and lieutenants) to set the direction of attack, not only colonels in distant headquarters. The decisions flow upwards as the commanders on the scene may have a better appreciation of the situation and any local opportunities that may exist. If they have to wait for decisions to be made or sanctioned at a higher level, tempo will slow.⁷⁵

Decentralised command has the advantage of the commander on the scene making the decision. His familiarity with the situation means he is in a better position to make a decision on the best way to resolve that particular situation than a far-off superior is. Martin Samuels explained that "Directive

command was developed because of the need for rapid action appropriate to the situation, a demand incompatible with centralised control.”⁷⁶ In a force practising decentralised command, subordinate commanders have to use their initiative to make decisions that work towards achieving their superior commander’s intent. A competent commander at the point of decision will have a better appreciation of the situation than a superior separated by distance from that point does.⁷⁷ In the words of Colmar von der Goltz, commander of the German Baltic Division in 1918, “A superior should never prescribe from a distance, what a subordinate on the spot is in a better position to determine for himself.”⁷⁸ Manoeuvrists believe that the advantages gained through this approach outweigh those gained by ensuring that a superior commander whose location in a headquarters ensures greater awareness of the overall situation makes all decisions.

Decentralised command is a means of working within the medium of confusion that manoeuvre theory associates with war. Combat is the domain of the unexpected. If responses to unforeseen situations can be made at the lowest levels, tempo may be much enhanced as a result. *MCDP 1 Warfighting* acknowledges that “Since war is a fluid phenomenon, its conduct requires flexibility of thought. Success depends in large part on the ability to adapt - to proactively shape changing events to our advantage as well as to react quickly to constantly changing conditions.”⁷⁹ The best way to react quickly to the unexpected is for the commander at the scene to immediately decide on the most appropriate course of action.

Directive command reduces friction, as it ‘frees up’ commanders. In his article *Maneuver/Fluid Warfare: A Review of the Concepts* Captain G. I.

Wilson, USMC, encouraged those at the higher levels of command to learn to “relinquish subordinates from the yoke of micromanagement and allow them to utilize their own initiative and resources to accomplish the mission.”⁸⁰ Micromanaging is dangerous. It multiplies the tasks that a commander needs to accomplish to the point where he can no longer effectively deal with any of them.⁸¹ By allowing his subordinates to make decisions for themselves, the commander is able to take a step back and view the situation as a whole. He is also loosening the bonds of friction.

This style of command requires that a leader has confidence in his subordinates and their training. If a commander is not confident that a subordinate will act in line with his intent when faced by the unexpected, he will be tempted to micromanage his actions. Major I.N.A. Thomas, British Army, wrote, “Decentralised command reinforced by simple, well-practised battle drills reduces reliance on increasingly vulnerable communications systems and it enables faster and more flexible reaction to the unexpected.”⁸² A commander who can trust in his subordinates’ ability to make the most appropriate decision is less likely to try to micromanage their actions.

Decentralised command speeds up the decision aspect of the OODA loop, improving the ability to take advantage of short-lived opportunities. Commanders do not have to wait for decisions to be processed by a chain of command, and those who have the best appreciation of their immediate situation, commanders on the scene, make the decisions. This style of command enables commanders to operate better in an environment of friction and uncertainty.

Achieving Tempo through Allowing Subordinates to Use Initiative

For the manoeuvrist, inaction is one of the greatest mistakes that a commander can make. When confronted by the unexpected, waiting for new orders from superiors will slow tempo. Commanders cannot afford to let this happen, and must be prepared to act on their initiative to ensure that it does not occur.

In a manoeuvre environment where tempo is critical, inaction can become disastrous. When faced with an unanticipated turn of events, subordinates need to be able to use initiative to quickly choose a promising course of action based on their own judgement.⁸³ In fluid warfare, opportunities to exploit enemy weaknesses are unlikely to be permanent. Commanders cannot wait for new orders in a changed situation. They must act. Waiting for new orders would place an additional drag on tempo. In the words of Franz Uhle-Wettler, a retired Lieutenant General in the Army of the Federal Republic of Germany, "When the unexpected intervenes, those who wait for new orders will lose. Those who react faster than their opponent will win."⁸⁴ Commanders who use their initiative to react quickly to unexpected combat situations ensure that rapid tempo is maintained.

The use of initiative by subordinates can only occur in a decentralised command system. Captain G.I. Wilson, USMC argues that in battle, commanders have to be able to take well-calculated risks when the situation arises.⁸⁵ That is something that they will not be able to do if their commanders insist on making all the decisions. Passing information up and down the chain

of command takes time. Taking time slows tempo. The exercising of initiative requires decision authority to be decentralised to the lowest possible level. In the competition for higher tempo, the loss of immediate control is a small price to pay given the costs associated with inaction.⁸⁶ Subordinates must have the authority to make decisions for themselves if they are to use initiative.

This requires leaders to train in an environment that sponsors initiative and boldness. Commanders who are denied the freedom to exercise initiative and boldness in peacetime training will be unable to do it in war; their training would have conditioned them to wait for orders.⁸⁷ *MCDP 1 Warfighting* makes it clear that “Boldness is an essential moral trait in a leader for it generates combat power beyond the physical means at hand. Initiative, the willingness to act on one’s own judgement, is a prerequisite for boldness.”⁸⁸ Commanders must recognise that in allowing their subordinates to exercise initiative, they are acknowledging the potential for them to make errors.⁸⁹ This is not an excuse to obstruct the use of initiative, which must be fostered despite the errors that might occur. The worse errors are those of inaction or timidity; they cannot be justified by lack of orders, and should be dealt with severely.⁹⁰ Errors of judgement are a natural by-product of allowing subordinates to use their initiative; the real errors occur in the lack of action that results when a commander does not have orders for a specific situation and chooses to wait instead of acting.

The bounds of initiative may even be extended to the point of disobeying an order if that that order is inappropriate to the situation. Even Erich von Manstein, architect of the German thrust through the Ardennes in

the invasion of France and a man renowned as a micromanager, argued that no commander could justify his losing a battle on being compelled to execute an order that they felt would lead to defeat. He wrote “There are admittedly cases where a senior commander cannot reconcile it with his responsibilities to carry out an order he has been given. Then, like Seydlitz at the Battle of Zorndorf, he has to say, ‘After the battle the king may dispose of my head as he will, but during the battle he will kindly allow me to make use of it.’”⁹¹ Orders that are irrelevant to the situation could cost lives, the initiative, or the battle. Commanders have to be able to decide if an order is appropriate, and be able to initiate a new approach if it is not.

This fits in with the manoeuvrist belief that war is fluid, uncertain, and disordered. As uncertainty cannot be eliminated, commanders must seek methods of operating effectively under its influence. The US Marine Corps’ *MCDP 1 Warfighting* sees the fostering of initiative by commanders in their subordinates as one solution.⁹² Initiative must be used when the situation has changed and the plan no longer seems relevant. According to Crown Prince Rupprecht of Bavaria, “There is no panacea. A formula is harmful. Everything must be applied according to the situation.”⁹³ If, in combat, a subordinate has to look to his superior for authority to take action, tempo will slow, and the initiative could be lost. Commanders can be sure of nothing in war; the use of initiative by subordinate commanders allows them to maintain high tempo in the face of events that were not predicted.

Inaction will cost tempo. To prevent inaction, commanders must allow their subordinates to display initiative when faced with situations that their superiors had not anticipated. This can only occur in a command environment

where decision authority has been decentralised, and is more likely to occur in an environment that has sponsored the display of initiative and boldness in its training for war. Commanders must not feel that orders prevent them from using initiative when those orders are plainly inappropriate to the situation, for it is impossible to predict every situation that may arise in combat; initiative is a means of working within this constraint.

Achieving Tempo through Intelligence

Intelligence has a vital part to play in the drive towards achieving higher tempo than the enemy. Boyd's fighter pilots were able to observe their enemy with their aircraft's instruments and their own eyes. Intelligence performs this function for ground combat units.

In translating Boyd's theory of the OODA loop from air to ground combat, the initial phase of the cycle (observation) becomes intelligence. Boyd based his theory on combat between aircraft. An aircraft's instrumentation (and in the case of the F86 aircraft, the bubble canopy) is, for all intents and purposes, an onboard information centre that gives the pilot and weapons systems the necessary intelligence to observe the enemy, so that he can orientate on them.⁹⁴ On the ground, distance, weather, and terrain all conspire to mask the enemy's actions from a commander. Without an effective intelligence system, a commander will not be able to see the opportunities before him in a combat situation, thus intelligence forms the observation aspect of the OODA loop.

As intelligence provides commanders with 'observation,' in keeping with the desire for higher tempo than the enemy, commanders must be quick to act in response to that intelligence, they must carry on with the orientation and decision aspects of the cycle. Commanders must balance the need for thorough preparation against the need for rapid action, if they concentrate too much on one, then they will neglect the other.⁹⁵ The commander who can make and implement decisions consistently faster than his enemies will gain a significant, if not decisive, advantage. Decisionmaking, therefore, is a time-competitive process, and the ability to make decisions quickly becomes essential in generating tempo.⁹⁶

The stress that Manoeuvre Warfare places on tempo requires commanders to accept a certain degree of risk, and place more emphasis on rapid action than detailed planning. Every combat situation is unique, and all decisions in combat have to be made in the face of uncertainty, making it very difficult, if not impossible, to arrive at the perfect solution to a battlefield problem. "Therefore," stresses *MCDP 1 Warfighting*, "we should not agonize over one. The essence of the problem is to select a promising course of action with an acceptable degree of risk and to do it more quickly than our foe."⁹⁷ In the words of George Patton, "a good plan violently executed *now* is better than a perfect plan executed next week."⁹⁸ Given information from intelligence sources, it is critical to maintain tempo by using that information quickly.

Commanders must not be tempted to wait for intelligence to be able to tell them with absolute certainty what the enemy is doing. This will slow tempo, not only making it harder to exploit fleeting opportunities, but

potentially surrendering the initiative to the enemy. The information that a commander receives at his command post may be insufficient to paint an accurate picture of the tactical situation. In time-competitive world of Manoeuvre Warfare, the commander has too much to lose in waiting for all of the information to be collected and processed.⁹⁹ The manoeuvrist admits that in war, there will always be an element of uncertainty and risk. *MCDP 5 Planning* stresses that his aim is not to remove this uncertainty “but to provide a framework that facilitates effective and focused action in the face of uncertainty and risk.”¹⁰⁰ In fact, too much information can prove dangerous. It might overload him, or cause him to delay making a decision in the belief that he will soon receive some vital piece of information that, in reality, may never come.¹⁰¹

For the manoeuvrist, certainty in intelligence must be an impossible goal. As acknowledged earlier, one of the basic precepts of Manoeuvre Warfare is that war takes place in a medium of confusion, Clausewitz’s friction. *MCDP 1 Warfighting* acknowledges that “At best, we can hope to determine possibilities and probabilities. This implies a certain standard of military judgement: What is possible and what is not? What is probable and what is not? By judging probability we make an estimate of our enemy’s designs and act accordingly.”¹⁰² The US Marine Corps views the role of intelligence as the estimation of these probabilities and their reduction to acceptable levels.¹⁰³ Waiting for additional information that may provide certainty in a confused combat situation slows tempo, and in an environment immersed in Clausewitz’s friction, certainty may well be an impossible to achieve.

Intelligence has to be disseminated rapidly in order to allow a commander to move on to the orientation and decision aspects of the OODA loop. This can be achieved through lateral communication. Sending intelligence up the chain of command, and then waiting for it to travel back down to the units that need it, takes time, and slows tempo. Just as Manoeuvre Warfare calls for decentralisation of command, intelligence must be decentralised also. Commanders must communicate intelligence to their peers, as well as to their superiors.¹⁰⁴ Allowing intelligence to flow laterally speeds up tempo; commanders who need it information quickly don't have to wait for it, slowing their decisionmaking.¹⁰⁵

The form that intelligence takes when it is disseminated also has an effect on tempo. Certain important information could be communicated before being fully integrated, analysed, evaluated, and interpreted. Commanders and intelligence personnel have to be aware that certain pieces of information may be so critical and time-sensitive that they have to be passed on immediately.¹⁰⁶ This may lead to prioritisation of intelligence. *MCDP 2 Intelligence* points out that "By concentrating on the truly essential requirements, we avoid diluting intelligence operations and clogging dissemination channels with nonessential intelligence."¹⁰⁷ In disseminating intelligence, commanders must ensure that the right intelligence reaches the right people.

One solution to the problem of intelligence being slow to reach commanders is their practise of forward command. If a commander can witness a situation first hand, he cuts out the time that would normally expire while that information is being passed through to him. A commander who is able to see the situation for himself can also be sure that nothing has been lost

in the transmission of the information, and that he is not wasting time with irrelevant details.¹⁰⁸ A commander might also find himself facing a problem where information from intelligence sources is scarce. A commander positioned forward is better situated to make a decision based on his own judgement than a commander far from the battle who is totally reliant on scant information.¹⁰⁹ A commander positioned forward reduces drag on tempo due to the time taken to disseminate intelligence.

In applying the Boyd cycle to ground combat, intelligence forms the observation aspect of the OODA loop. Commanders cannot wait for intelligence to provide them with absolute certainty about the enemy's actions, as this will slow tempo. This could see short-lived opportunities missed, or worse, the initiative surrendered to the enemy. Intelligence must be disseminated rapidly to maintain peak tempo. This could see information passed laterally between peers, not just up the chain of command. It could also result in intelligence being passed on before it has been completely analysed. Commanders can reduce tempo drag caused by their waiting for intelligence by positioning themselves well forward, so that they are not entirely reliant on outside sources of information. This would also see them imbued with a feel for the situation, so they could make decisions based on intuition when information is scarce. Manoeuvre theory dictates that war takes place within an atmosphere of confusion. In such an environment there can be no certainties. Therefore the role of intelligence is to provide probabilities and possibilities. It is up to the commander to decide when the probability is high enough for him to act.

Mission Tactics

Auftragstaktik, 'mission tactics,' has existed in various forms in the German military for two hundred years. Its application to Manoeuvre Warfare emphasises the notion of telling subordinates what to do, as opposed to how they should do it. This enables flexibility, and an improved ability to work within the constraints of friction.

The US Joint Chiefs of Staff provides the following as a definition of a mission type order: "1. Order issued to a lower unit that includes the accomplishment of the total mission assigned to the higher headquarters. 2. Order to a unit to perform a mission without specifying how it is to be accomplished."¹¹⁰ It is the second part of this definition that is the basis for Auftragstaktik.

Auftragstaktik may give more flexibility and adaptability than the traditional method of detailed control. Detailed orders create difficulties if it becomes clear that the assumptions they are based on are incorrect.¹¹¹ Since Manoeuvre Warfare doctrine acknowledges the confusion and unpredictability of combat, manoeuvre theory dictates that any plan that is not flexible enough to adapt to a changing or unexpected situation can all too quickly become obsolete. Major James Morningstar, US Army, refers to this with "the first casualty in combat is the plan."¹¹² The use of mission type orders theoretically keeps the plan flexible enough to survive combat, or, more correctly, it creates a command environment flexible enough to adapt to unexpected changes in the situation. A commander using mission type orders dictates *what* his subordinates must achieve, and for what purpose, but leaves the subordinate

with the freedom to choose *how* they will achieve that mission. William Lind believes that in effect, mission orders are a contract, “the subordinate agrees to make his actions support the mission in return for wide-ranging freedom in selecting the means.”¹¹³ Therefore, when confronted by the unexpected, a commander has the freedom to choose the most appropriate response for himself, without being constrained by orders that dictate actions that are inappropriate to the situation.

The use of *Auftragstaktik* results in the creation of orders that are a step away from traditional attempts to define subordinates’ actions in detail. Mission type orders act more as general guidelines than step by step instructions. Captain G.I. Wilson, USMC, writes, “The subordinate commander is given a framework of tactical freedom within which to execute the commander’s broad plan.”¹¹⁴ This does not mean that the commander should avoid all details of execution. In assigning a mission, a commander must dictate the method of its execution only to the degree necessary to coordinate his subordinate’s actions. Decentralised execution without coordination would dissipate a unit’s ability to achieve comprehensive ends.¹¹⁵ Four platoons acting independently for different purposes cannot achieve an outcome on the same level as four platoons acting independently in the pursuit of a common goal. Only the latter can be considered a true ‘company-strength’ effort.

Mission type orders provide commanders with a framework, or set of reference points, in deciding the best course of action for a given situation. Within a mission, there are two main reference points. These are the task that the unit is to achieve, and the purpose for their being given that task,

otherwise known as their commander's intent. If the situation changes and the task becomes irrelevant, the intent becomes a guide for further action.¹¹⁶ The intent acts as a 'glue,' holding together the disparate actions of subordinate commanders, ensuring that they all work towards a common end.¹¹⁷ Mission type orders provide subordinates with an outline of what they are to achieve, and leave them the freedom to determine the most appropriate details to fill in the blanks.

Mission tactics have the benefit of freeing a commander. They allow him to focus his attention on higher-level concerns rather than the intricate details of subordinate execution, or micromanagement as it is so frequently labelled by its detractors.¹¹⁸ In reducing the number of tasks that the commander has to personally perform, he is freed a little more from Clausewitz's friction, which, in turn, makes it easier to maintain tempo.

Mission type orders allow forces to maintain tempo when they are faced with unexpected changes in the situation as subordinate commanders are able use their initiative to choose and implement a course of action immediately. Their doing so also reduces pressure on their commander, leaving him better able to take a step back and look at the situation as a whole, rather than getting bogged down micromanaging his subordinates' actions.

Mission Tactics and Commander's Intent

The commander's intent tells a commander's subordinates the reason why the task has to be completed. Commander's intent is an indication of

what the commander intends to achieve. A statement of commander's intent should answer the question "what is it that I want to do to the enemy?" "To defeat the enemy" is an insufficient statement of intent, as this is always the ultimate goal, and thus conveys no useful information to subordinates.¹¹⁹ This is a critical aspect of Manoeuvre Warfare, as it is a means of operating in the shackles of uncertainty. A battle may all too easily unfold in a way that a commander could never have predicted, forcing him to alter his concept of how he will achieve his desired result. If subordinate commanders have a full understanding of what that desired result actually is, then they can react to unanticipated situations in a manner that will work towards achieving that intent.¹²⁰

A commander needs to know how his actions fit into 'the big picture.' To know only his immediate commander's intent is insufficient, he must know his commander's superior's intent also, or intent 'two levels up' as it is known in military jargon. This ensures that the actions of the smallest combat elements are in concert with the largest.¹²¹ With an accurate understanding of intent two levels up, a platoon commander might find that he is in the right place at the right time to achieve his battalion commander's intent. Through an understanding commander's intent, leaders on the battlefield are able to ensure that their actions influence the situation at a higher level than one would associate with the relative size of their unit.

Commander's intent serves to unify the actions of a force. It is a common misconception that the initiative aspect of Manoeuvre Warfare provides subordinates with latitude to do anything they want. This is not true. Initiative applies to means, not ends.¹²² As part of a mission, the task

describes the necessary action while the intent describes the desired result of the action. As *FMFM 1 Warfighting* points out, "Of the two, the intent is predominant. While a situation may change, making the task obsolete, the intent is more permanent and continues to guide our actions."¹²³ Commander's intent acts as glue, guiding the actions of subordinates towards achieving a common goal.

Communicating commander's intent to subordinates enables the maintenance of tempo. Martin Samuels argues that one of the driving forces behind the development of the use of commander's intent was the need for rapid action that was appropriate to the situation. This need was not compatible with the incumbent command system that relied on centralised control.¹²⁴ When faced with the unexpected, a commander acts on his initiative and does what he feels is necessary to achieve his superior's intent. He tells his superior what he has done, but is not constrained by the need to wait for permission before acting.¹²⁵ Intent allows commanders to act quickly to get inside their enemy's OODA loop, while ensuring that their actions still support their superior's OODA loop.¹²⁶ Commanders who have an understanding of their superior's intent, and are willing to act on their initiative, ensure that tempo is not slowed by the need to pass information up a chain of command and wait for new orders before acting.

Uncertainty is a central tenet of Manoeuvre Warfare. The manoeuvrist acknowledges that war is the domain of the unexpected. The use of commander's intent provides direction when reacting to an unanticipated situation, however, commanders must be certain that their subordinates have an accurate understanding of their intent, and that when acting on their

initiative they do so in ways that seek to achieve their commander's intent. General Colmar von der Goltz believed that it is all too easy for a leader, acting on his initiative, to bring on a battle that their superior did not desire, thus determining the fate of the whole army.¹²⁷ Uhle-Wettler urges commanders acting on their initiative to think to themselves "when my boss gave me my mission, he cannot have anticipated this situation. Therefore, I shall disregard my mission and shall act within my boss' intent."¹²⁸ The whole purpose of intent is to allow subordinates to exercise judgement and initiative in a way consistent with their higher commander's aims.

Commander's intent shows subordinate commanders how their actions fit into the big picture, and unifies their actions towards achieving a common goal. It is a means of operating more effectively in an uncertain environment, and of ensuring that tempo is not significantly effected when the uncertain intervenes.

Main Effort

In the world of Manoeuvre Warfare, all actions require a Main Effort. In boxing, it would be the knockout punch. The blow that the boxer has been trying to set up an opening for, saving his energy for, and seeking a weak spot on his opponent to launch against. In military terms, this is a unit, supported by all the resources the commander can possibly spare, which he intends to use to achieve victory.

The predecessor to the US Marine Corps' Main Effort, *Schwerpunkt*, is one of the most loosely defined terms in the manoeuvrist's dictionary. It literally translates as 'centre of gravity' or 'crucial point.'¹²⁹ It is still widely used in explanations of manoeuvre theory, and articles and books variously define it as 'Main Effort,' 'point of main effort,' 'heavy point,' 'centre of gravity,' 'focus,' and 'focus of effort.' The term is not used at all in US Marine Corps theory, where it is alluded to as 'focus of effort,' and it is the US Marine Corps' construct of the 'Main Effort' as an alternative to *Schwerpunkt* that separates it from the Manoeuvre Warfare doctrines of other nations. This approach is relatively new in terms of warfighting theory, and is a significant step away from traditional views.

US Marine Corps doctrine views the Main Effort as the commander's bid to achieve a decision, and always defines it in terms of a single specific friendly unit; as in, "Main Effort is Alpha Company." Expressions such as 'point of main effort' can be misleading in the context of US Marine Corps manoeuvre theory. Lind points out that they are all too easily interpreted as a geographic location, a point on a map¹³⁰, which is more appropriate to *Schwerpunkt* than Main Effort. Lind recommends that, in designating a unit as Main Effort, a commander "ruthlessly concentrates combat power to support that unit, often taking major risks elsewhere."¹³¹ Thus the Main Effort will most likely be allocated any available indirect firepower, logistic, or reconnaissance assets dictated by the needs of the situation.

The current US Marine Corps approach is a step away from historical precedent. Until the birth of manoeuvre doctrine, armies throughout the world sought to define a *Schwerpunkt* in terms of a specific enemy unit or enemy-

held area. All of the friendly units would concentrate their actions on the defeat of that one unit or possession of that area. This is consistent with the US Marine Corps' definition of the *focus of effort* as the enemy elements that we concentrate on. However, this differs from the contemporary definition of Main Effort in the US Marine corps in terms of the unit or task organisation that performs the key actions against this target.¹³² To put it simply, in the US Marine Corps the Main Effort is directed against the focus of effort (the traditional 'German' Schwerpunkt).

Due to the manoeuvrists' acceptance of combat as uncertain and unpredictable, the designation of a unit as Main Effort is hardly an irrevocable decision. If in an attack the Main Effort finds itself becoming bogged down while other units advance with ease, the commander may alter the Main Effort, assigning it to a unit more likely to achieve a decision. The US Marine Corps has adopted the principle of reinforcing success, not failure, when reassigning a Main Effort.¹³³ It is important to note that this must be more than a mere change in the name of a unit on a map. In redesignating the Main Effort, the assets that had originally been allocated to support the original unit must be shifted to the new one in order to give it the necessary capability to achieve a decision.¹³⁴

It is critical to use the Main Effort as the unit to achieve a decision, to employ it at the decisive point. Victory at the decisive point makes defeat elsewhere irrelevant, while economy of effort at that point could all too easily result in defeat.¹³⁵ Commanders must accept that they have to take risks in assigning a Main Effort. To allocate additional resources to secondary efforts is counterproductive to the true objective. This applies equally to both the

offence and the defence. As an example, in the defence, the unit that the commander intends to use as a counterattack force will be the Main Effort by design. It must be given sufficient assets to deliver the decisive blow. Because of the unpredictability of combat, it is also more likely to be allocated any available mobility assets.¹³⁶

Assigning a Main Effort requires the massing of capabilities to support that unit. The goal is to generate superior combat power at a particular time and place, enabling even a numerically inferior force to achieve decisive local superiority over their enemy. This does not apply only to combat units. It is just as relevant to logistics and intelligence. This willingness to concentrate requires the acceptance of risks in areas other than the concentration.¹³⁷

There is a link here to Boyd's OODA loop theory. In seeking parallels between his theory's application to air and ground combat, Boyd studied a number of history's decisive battles and campaigns. In these studies, he identified a common condition of success, which he labelled 'unequal distribution.' This led Captain John Schmitt, USMC, to the conclusion that if one adopts Manoeuvre Warfare "it seems we must overcome the natural inclination to "fair share"; that is, to spread ourselves evenly (in efforts as well as resources.)"¹³⁸ The urge to cover all bases will not see the creation of any local superiority. Manoeuvre theory sees combat as fluid and uncertain, so commanders must be able to change the Main Effort if the situation so dictates. If, in an attack, the Main Effort finds that it is facing considerable resistance and progress is slow relative to other units, the commander may redesignate his Main Effort to a unit that has uncovered a more vulnerable

point in the enemy's organisation.¹³⁹ The risks taken must not be 'all or nothing,' few battles progress exactly as the commander planned.

Main Effort may also act as a harmonising force for subordinate initiative, although admittedly not to the same degree as commander's intent. In addition to acting in line with their commander's intent, subordinate commanders acting on their initiative ask themselves what they can do to support the Main Effort.¹⁴⁰ Although Main Effort does not have the same unifying force as commander's intent, it is yet another means of getting forces to work together towards a common goal.

This focussing of effort does not apply solely to combat units. Logistics must be focussed also. In focussing the logistics effort, commanders have to strike a careful balance. If they provide the Main Effort with too many resources, then those resources can become a burden; too many unnecessary resources can hinder the Main Effort to the same extent as a lack of support. The commander must also ensure that he does not support the Main Effort to the extent that he excludes all other units from logistic support. As noted in *MCDP 4 Logistics*, "All essential activities require some degree of support, even if that support is limited to basic life support such as food, water, and medical assistance."¹⁴¹ Manoeuvrist commanders have to strike a balance in the allocation of logistic support.

In US Marine Corps doctrine, Main Effort is always defined in terms of a particular unit. This unit is the commander's bid to achieve a decision. Once the battle is underway, a unit's designation as Main Effort is not an irrevocable decision, if the Main Effort gets bogged down, the commander may make another unit the Main Effort. The guiding principal in this is that

commanders should reinforce success, not failure. If the Main Effort found itself confronting an enemy strength, the new Main Effort should be a unit that has the opportunity to exploit an enemy weakness. The assigning of a Main Effort requires the massing of effects to support that unit. This is not just restricted to combat capabilities such as antiarmour or indirect fire support weapons, but may equally apply to intelligence and logistic assets, and in doing this a commander must be prepared to accept a certain degree of risk. Lastly, the assigning of a Main Effort has the added advantage of harmonising the actions of those acting on initiative a little more.

Main Effort and the Centre of Gravity

Manoeuvre theory now suggests that we should seek weaknesses in the enemy's system and then defeat him through the exploitation of those weaknesses. If a weakness exists that we can take advantage of to produce a decisive result, then we must do everything in our power to ensure that the exploitation of that weakness is successful. Manoeuvre theory calls such a weakness a centre of gravity and stresses the need to use our Main Effort against it.

Centre of gravity is an elusive concept that is crucial in manoeuvre theory. In the words of Lieutenant Colonel Gary Anderson, USMC, "In my own mind, I used to think of it as the key enemy weakness, but that does not fully grasp the essence of the concept. The enemy's center of gravity is the point where, if proper pressure is applied at a given time and place, we can

achieve decisive results against him.”¹⁴² It is this notion of being able to achieve decisive results that separates a centre of gravity from an enemy weakness. An enemy will have many weaknesses, some of which are more critical than the others. If some weaknesses would only bring about minimal damage in the enemy system through their loss, while others could result in the collapse of his entire system, then we must target those that pose the enemy the greatest degree of loss. According to US Marine Corps doctrine “we should focus our efforts against a *critical vulnerability*, a vulnerability that, if exploited, will do the most significant damage to the enemy’s will to resist us.”¹⁴³

It is worth noting here that the manoeuvrist definition of a centre of gravity as a ‘critical vulnerability’ hinges more on the ‘critical’ aspect than the ‘vulnerability’ aspect. It is the vulnerability that can do the most damage to the enemy’s system, the vulnerability that is most likely to bring about decisive results if it is exploited. The enemy’s *critical* vulnerability, therefore, is not necessarily their *most vulnerable* vulnerability.

The manoeuvrist view of centre of gravity denies its traditional definition as the enemy’s source of strength, or their centre of mass. Manoeuvre theory tells us to seek the enemy’s defeat by means other than the destruction of his mass. If the enemy’s centre of gravity were to be their source of strength, then the result in battle would be our own strength directed against theirs; mass on mass trying to wear each other down. This is attrition.

Centres of gravity can take many forms, depending on the situation, and exist at all three levels of war. They might be combat capabilities such as armour or aviation strength, intangibles, like morale, localities, a critical piece

of terrain that anchors a defensive position, or relationships between components in a force, maybe between coalition partners or services.¹⁴⁴

According to the US Marine Corps, at the strategic level, a centre of gravity is more likely to be an intangible factor, such as a shaky alliance, although it might also be a key resource or city.¹⁴⁵ Robert Leonhard expands on the latter view, noting that cities can be seats of government, and centres of industry and transportation, and that their loss can be a severe blow to the enemy's will to fight. "The tangible instruments of governmental power most often reside in such locations. Hence, the enemy's "mass" – his armies, navies, and air forces – are in peril of becoming irrelevant to the war once the seat of government, transportation, or logistics is neutralised."¹⁴⁶ He also proposes that it might take the form of intangibles such as some unifying economic or religious belief, and that these might be targeted through their leader.¹⁴⁷ Lieutenant Colonel H. Hayden, USMC, argues that in the Vietnam War, the American centre of gravity was the will of the American people. When the President and Congress failed to convince the American public that South Vietnam was of national security interest to the United States, success or failure on the battlefield became irrelevant.¹⁴⁸

At the operational level a centre of gravity could be a geographic locality, the loss of which could make the enemy position untenable. Such was Hitler's belief in the Ardennes offensive of 1944-1945. He believed that the loss of the port city of Antwerp would paralyse the Allied armies.¹⁴⁹ At the tactical level, the centre of gravity might be a logistical train, the loss of which could paralyse the enemy, denying him the means to fight, or the communications link between combat forces and their headquarters.¹⁵⁰

The British advance through Burma during the Second World War offers an excellent example of a centre of gravity. The British were pushing down Burma with a frontage two corps wide, each corps containing two divisions and regiments of tanks and artillery. The British required large amounts of petrol, food and ammunition to support their advance, and since there was no real road in the theatre, the only feasible option of resupply was by air. This was a relatively simple task in the summer when their C-47 transport aircraft could use temporary airstrips.

The British found that the four divisions required a huge number of aircraft to supply them, a number that could only be reduced by 'streaming' the aircraft. Streaming involved taking off from their bases in Assam individually, dropping their load at their allotted airfield, and returning immediately to Assam to repeat the process. Each aircraft could do five trips in daylight every day by streaming. Sir Robert Thompson believes that this was "the key, the absolute key, to the whole of the operations."¹⁵¹ The Japanese had seven Zeros (fighter aircraft), which, used properly, could have proved decisive. However, they most often used them to shoot up the leading trucks on the road, which would delay the advance for a few hours at best. If these aircraft had been employed against the streams of C-47s, Thompson believes that the Japanese could have seriously impeded the British force's progress, if not stopping it altogether. The British would have had to escort their transport aircraft in convoys, reducing the number of trips each aircraft could make to two per day. The British could not have continued their ground advance when being supplied by so few aircraft. This example shows that centres of gravity can take many different forms.

The spirit of Manoeuvre Warfare demands that strength be thrown against weakness. The Main Effort must be employed against the object that will cause the enemy the most decisive damage, his centre of gravity. This is because the Main Effort is the commander's bid to achieve a decision; everything else is secondary. As dictated in US Marine Corps doctrine, "Since the main effort represents our primary bid for victory, we must direct it at that object which will have the most significant effect on the enemy and which holds the best opportunity of success."¹⁵² The Main Effort must be used to strike quickly and boldly at the enemy's centre of gravity, pursuing advantages relentlessly.

Commanders should not restrict themselves to using only their Main Effort against the enemy's centre of gravity. They should aim to use any and every unit that they can against it. The centre of gravity should be the focus of effort, the *Schwerpunkt*.

This involves a high level of violence, ensuring that Manoeuvre Warfare is far from the futile search for a bloodless victory that detractors of Manoeuvre Warfare so often label it as. This was made very clear in *FMFM 1 Warfighting* with the words "when the *decisive* opportunity arrives, we must exploit it fully and aggressively, committing every ounce of combat power we can muster and pushing ourselves to the limit of exhaustion."¹⁵³ While both the manoeuvrist and attritional approaches employ killing and destruction, it is the use of violence in this way that separates a manoeuvrist approach from an attritional one. The manoeuvrist directs his combat power against an enemy's vulnerability or centre of gravity, seeking his downfall while avoiding his strength. Practitioners of attrition use their combat power to wear down the

enemy's fighting force in an attempt to inflict an unacceptably high rate of loss of men and material. The commander must use his Main Effort against the enemy's centre of gravity.

In the unpredictable realm of combat, the identification of the enemy's centre of gravity might prove difficult. The intelligence effort is a crucial aid to the commander. Its ability to discover the enemy's critical vulnerabilities determines both the target for a commander's Main Effort, and ensures that the Main Effort is structured in the way most appropriate to that particular vulnerability. If the identification of the enemy's critical vulnerabilities proves difficult, the commander may have no choice other than the exploitation of all identified vulnerabilities, until a decisive opportunity emerges.¹⁵⁴ In some cases, it may not be necessary to destroy an enemy's actual centre of gravity. It may be sufficient to target something that the enemy commander considers to be his own critical vulnerability, something he believes that he cannot afford to lose. If we can destroy something that the enemy believes is vital to their ability to continue the struggle, the fact of whether it is actually vital or not becomes irrelevant. This is a means of targeting their will to fight.

A centre of gravity is a critical vulnerability in the enemy's system. It is the vulnerability that, if successfully exploited, will bring about a more decisive outcome than the exploitation of any other enemy weakness. Centres of gravity exist at the strategic, operational, and tactical levels of war, and can assume many different forms, both tangible and intangible. Manoeuvre theory's desire to pit strength against weakness requires commanders to use their Main Effort against the enemy's centre of gravity. This involves considerable violence, but it is the goal of this violence that separates

manoeuvre from attrition. It is violence for the purpose of the destruction of the enemy's system, not incremental attrition of his strength.

Surfaces and Gaps

According to Greek mythology, as a baby the hero Achilles was plunged into the river Styx, making him his body invulnerable everywhere except for his ankle, where his mother had held onto him as she plunged him into the water. Paris knew of this weakness, and killed Achilles by hitting him in the ankle with a poisoned arrow guided by Apollo. Many warriors since have sought weaknesses in their enemies too. The manoeuvrist concept of surfaces and gaps is a modern slant on the tale of the mighty Greek hero.

The concept of surfaces and gaps found its greatest advocate of the Twentieth Century in Sir Basil Liddell-Hart, but can be traced back much further, to the writings of Sun Tzu. In his great work *The Art of War*, Sun Tzu compared the actions of an army in battle to the flow of water "for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness."¹⁵⁵ Liddell-Hart's expanding torrent theory further developed Sun Tzu's theory. It discussed water naturally seeking weak points and gaps. When it came upon any such points, it would begin to trickle through them, and gradually increasing in flow as it eroded them, and then expanding on the other side, leaving the crumbling obstacle behind it. Liddell-Hart applied this directly to combat forces in an attack, inferring that they should avoid strong points (surfaces) and concentrate on

weak points (gaps), and once through, they should expand to attack the enemy's centre of gravity. Given the ever-increasing dispersion of troops that is necessary for them to survive on the modern battlefield, gaps are certain to exist that the enemy cannot command with observation or fire. These can provide manoeuvre forces with local sanctuaries, and thus the ability to hold territory, without actually having to fight for it.¹⁵⁶

Although this provides a good starting point for the examination of the surfaces and gaps concept, Manoeuvre Warfare's theory of surfaces and gaps has more to it than this. The flowing water analogy has a number of weaknesses. The surfaces that obstruct the progress of his expanding torrent are both immobile and unresponsive; this would hardly be the case in combat. Few intelligent enemies are likely to sit passively as an attacking force wears down part of their force in order to break through in that area. This analogy is also terrain based. The obstacles that the force has to break down are banks of earth, tangible objects. This will not always be the case in war. Surfaces and gaps can be more than areas where the concentration of the enemy's combat units is high or low.

Surfaces and gaps can be more than weak or strong points in the enemy's position; they are any aspect of the enemy's opposition to our will that provide little or no resistance. Captain G. Wilson, USMC, believes that a gap can be a weakness that is psychological, sociological, organisational, or tactical in nature.¹⁵⁷ Gaps can be any weakness in time or space. They might manifest themselves in the time that a unit finds itself overexposed in vulnerable, the boundary between two units or coalition partners, an infantry unit caught in open terrain, or in a force which has overextended its logistical

tail. A surface could be either an actual physical strongpoint, or an enemy strength. It could be a time period following the enemy's replenishment and consolidation of his position, or an effective air defence umbrella.

This approach can lead to the accusation that the definition of surfaces and gaps is so broad and unspecific as to be useless; apparently almost anything can be a gap. This is actually a weakness in the US Marine Corps' approach to the whole issue of surfaces and gaps. The Marine Corps starts by examining surfaces and gaps as weak or strong points in an enemy's defensive positioning. It then goes on to expand the idea into weak or strong points in the enemy's organisation. This is a 'backwards' approach to the issue. The better approach would be to first look at the enemy's strengths and weaknesses, which can be positional, organisational, psychological and so on. The idea of surfaces and gaps would neatly fit into this as a subset of positional vulnerability. Thus, while the Marine Corps talks of 'surfaces and gaps', it would be better to think of the concept as that of 'strengths and weaknesses' unless the situation is one where the enemy's weakness is an actual gap in the disposition of his forces.

Surfaces and gaps must also be seen as existing relative to the particular friendly force. While a forest will in most cases be a surface in terms of armoured forces, it is more likely to be a gap for infantry, who can infiltrate through it.¹⁵⁸ Surfaces and gaps must be seen as more than the tangible presence of significant combat power at a given location. The very nature of a Main Effort, in that a commander defines it in terms of a particular friendly unit, also aids the manoeuvrist in this situation. This allows the commander to task organise that unit so that it will be as effective as possible

against the particular enemy gap or weakness that has been identified. Through the definition of a Main Effort relative to a particular situation, its combat power can be magnified. In the words of *FMFM 1 Warfighting*, “Ideally, when the moment of engagement arrives, the issue has already been resolved: through our orchestration of the events leading up to the encounter, we have so shaped the conditions of war that the result is a matter of course. We have shaped the action decisively to our advantage.”¹⁵⁹

Success is more likely if strength is concentrated against weakness. It follows logically that the Main Effort should be employed against a gap. “We avoid enemy strength and focus our efforts against enemy weakness with the object of penetrating the enemy system since pitting strength against weakness reduces casualties and is more likely to yield decisive results.”¹⁶⁰ The Main Effort is the unit that the commander intends to use to achieve a decision; using it against a gap offers the best hope of achieving that goal.

To this end, the reconnaissance effort must be directed at identifying potential surfaces and gaps so that they can be exploited quickly. Major Gary Anderson, USMC, saw this as one of Alexander’s gifts, in that “he had the foresight to see his enemy’s weakness and react to it before the enemy force could learn from its own mistakes.”¹⁶¹ This has developed into the ‘reconnaissance pull’ method of attack, where reconnaissance assets identify gaps, and push through them, much like the first trickle of water in Liddell-Hart’s expanding torrent. The main forces then force themselves into the gap, expanding it for others to follow.

Sometimes, there might not be any apparent gaps in the enemy’s system. In such a situation the commander may have to create a gap through

considerations of relative strength. If the enemy appears strong everywhere, then we may have to take risks and concentrate large amounts of combat power at one point while accepting weakness elsewhere. This will result in the enemy being weaker at that location *relative* to us. Clausewitz proposed this in his great work *On War*. He believed that although the size of an army was a vital part of strategy, a commander could not be assured of taking the field with a significant numerical superiority over his enemy. He proposed that in such a situation “the forces available must be employed with such skill that even in the absence of absolute superiority, relative superiority is attained at the decisive point.”¹⁶² This concept is embodied in the notion of the Main Effort as a ruthless concentration of strength; the commander’s bid to achieve a decision through accepting weakness in some areas in order to have overwhelming strength in the decisive area.

This approach requires commanders who are prepared to take risks. The decision to accept weakness in return for strength in the decisive area is a difficult decision to make, especially since it violates the principle of security. There will be times when this fails. In late 1944 the Allies attempted to mass their strength into a decisive force, and found themselves stretched to breaking point when Germany launched a surprise offensive through the Ardennes. In some cases, one might find that one has massed one’s strength, but is still unable to achieve a decisive advantage. This is the unpredictable nature of war. When massing strength and accepting weakness is the only route to victory, it is better to take a risk than to sit idly by and cede the initiative to the enemy. The commander who tries to spread his strength

evenly throughout his force will find that he is too weak to seek a decision, and will be forced to bend to his enemy's will.

Commanders should endeavor to employ their Main Effort against the enemy's flanks and rear. These are the areas where the enemy least expects us, and offer the prospect of the greatest psychological damage.¹⁶³ In an environment of fluid, non-linear warfare these terms can no longer be described as permanent physical directions, they are better seen as functions of attention. According to Captain John Schmitt, USMC, "The "front" is that area in which the enemy's attention is focussed, whether it be physically before him or not. The "flanks" are on the periphery of his attention and the "rear" where he is least attentive. For that matter, these "areas" may not be areas at all in the spatial sense. The enemy's "rear," for example, may be any possibility for which he is unprepared."¹⁶⁴ The Main Effort must be used to exploit a gap.

As the manoeuvrist acknowledges the fluid, unpredictable nature of war, the Main Effort should not be the only unit attacking the enemy, it is important to have other thrusts. Given that units tasked with these other thrusts may have been weakened in an attempt to bolster the Main Effort, commanders have to acknowledge that their progress will be difficult, and that resources are reallocated in the shortest possible time when the Main Effort is changed. Gaps are rarely likely to be permanent, and will usually be a short-lived opportunity at best; their exploitation requires flexibility and speed. Attacks other than that conducted by the Main Effort create confusion in the enemy, disguising the Main Effort, and they also create opportunities for shifting the Main Effort. If, due to some unforeseen event, the Main Effort

finds that it has hit a surface, the commander may designate a different unit as Main Effort, so long as that unit offers a greater likelihood for success. This technique ensures that units are pulled through by successful units ahead, rather than pushed from the rear along an unwavering line of advance.

This requires an agile logistics system that is able to rapidly shift its focus to another unit if the commander decides to redesignate the Main Effort. Michael Codner argues that a force employing manoeuvre doctrine will emphasise the agility of combat forces over stockpiles of ordinance.¹⁶⁵ Logistics elements in a manoeuvre environment must be able to rapidly transform from one action to another.

The concept of surfaces and gaps originated in the writings of Sun Tzu, and was promoted in the Twentieth Century by Liddell-Hart in his expanding torrent theory. These theories offer a good starting point, but they fall short of the manoeuvrist's understanding of surfaces and gaps as they fail to properly promote the possibility of surfaces and gaps being intangible entities. If they were applied directly to combat, they would also assume the enemy to be both passive and static, a rare luxury. Surfaces and gaps can exist in both tangible and intangible forms; their nature can range from strong defensive positions, through capabilities, to periods of time. They must be seen in terms that are relative to the friendly force and the situation. While light infantry caught unprepared in the open might be a gap for armoured forces, the same cannot be said if those infantry had a strong antitank capability and were forewarned of their enemy's approach. As the use of strength against weakness offers the greatest hope for success, the Main Effort should be used to take advantage of a gap. In situations where there are no

apparent enemy gaps, then the Main Effort must be employed to create a greater relative strength than the enemy at the decisive point. Opportunities in war are often short-lived. If the situation so dictates, the commander must be willing to accept that the exploitation of a gap other than that which he first directed his Main Effort against offers a better chance of achieving a decision. He must also be willing to change his Main Effort to a unit in a better position to exploit the new opportunity.

Will to Fight

Parades of soldiers, tanks, aircraft and guns reinforce peoples' perception of such equipment as the key instruments of war. They are the visible aspects of combat power. What is often overlooked is the fact that there is something more than bullets and bombs that is essential to the pursuit of victory. The strength of will of the forces employing those instruments of destruction is also a decisive factor.

The traditional way in which forces seek to defeat their enemy is through the destruction of his physical military assets, or some other tangible aspect of his warfighting ability. The logic behind this was that the enemy could not continue to fight if he lacked the means to do so. Manoeuvre theory proposes a different approach, the destruction of the enemy's will to resist. The US Marine Corps labels the former approach to warfighting as a strategy of *annihilation*. In such a strategy the military objective is unlimited, the aim is to destroy the enemy's ability to resist, leaving him helpless to oppose the

imposition of our will. In contrast, the latter approach (the elimination of the enemy's will to resist) is termed a strategy of *erosion*. The aim is to raise the enemy's costs so high that he will prefer ending the war on our terms to continuing the fight.¹⁶⁶ According to *MCDP 1-1 Strategy* "erosion strategies seek to present the enemy with the probability of an outcome worse *in his eyes* than peace on the adversary's terms. This is accomplished through eroding or wearing down the enemy's will to fight, rather than destroying his ability to resist."¹⁶⁷

The actions of the Filipino government in fighting the Hukbalahap (often referred to as the Huks), from 1946 till 1953 offer an excellent example of the benefits of targeting the enemy's will to fight. The Huks were the military arm of the Communist Party in the Philippines, and operated largely through the use of guerrilla warfare. The Communist Huks exploited the Filipino peasantry, which was in a perpetual state of financial hardship, and in some cases starvation. The cause of the peasant's grievance lay in the fact that the established financial system, which was over four centuries old, saw farmers owning only ten percent of the land they tilled, while having to pay fifty percent of their cash crop to the government.¹⁶⁸

In 1953, Ramon Magsaysay was appointed Minister of National Defence. Magsaysay realised that the practice of killing Huks in an effort to defeat them through attrition did little to solve the problem. The solution he preferred was a massive placement of Huk guerrillas on combined citizenry farms, giving them and their families land to cultivate. As Donald Hamilton rightly points out "the prospect of owning land merely by surrendering to the authorities seemed preferable to death. Magsaysay convinced the government

of the viability of the plan by holding true to his word, making the appeal more attractive than fighting for disillusioned Huks.”¹⁶⁹ In this situation, the merits of directly targeting the enemy’s will to fight over their fighting force in the field proved their worth.

The move towards defeating the enemy through the destruction of his will to fight is problematic. David Grossman observes that “We can measure and precisely quantify the mechanics of defeating the enemy’s ability to fight, and it is this tangible, mathematical quality that makes attacking the enemy’s physical *ability* to fight so much more attractive than attacking the enemy’s psychological *will* to fight.”¹⁷⁰ Tanks and troops can be marked on maps, and related to the terrain and the positions of friendly forces, the same cannot be said of will. Manoeuvre Warfare requires commanders to think about the enemy in ways that are difficult to quantify.

The manoeuvrist tries to create an overwhelming impression in the enemy’s mind that the battle is lost. If he is successful, any physical evidence to the contrary becomes irrelevant. General A. A. Vandegrift, USMC, made this clear with the words “Positions are seldom lost because they have been destroyed, but almost invariably because the leader has decided in his own mind that the position cannot be held.”¹⁷¹ Lind offers the example of the 2nd Battalion 8th Marines at Grenada, where the Grenadians had a platoon defending the capital of St George’s which ultimately did not fight. A Grenadian officer explained the reason for this after his capture. He said that the Marines appeared so quickly in areas where they were not expected that the Grenadian Army’s high command in the capital was convinced that

resistance was hopeless.¹⁷² Given the choice of eliminating the enemy's ability to resist, or his will to do so, the manoeuvrist opts for the latter.

This approach is based on the view that war is a contest of wills. The US Army considers combat power to be a product of both military forces and their will to fight. On this basis, weak will results in weak combat power, and strong will makes military forces more effective.¹⁷³ Clausewitz saw battle as a *Zweikampf* (literally, a 'struggle of two'), suggesting the image of two wrestlers grappling in a hold, each applying force and counterforce to throw the other. This is along the same lines as the US Marine Corps view that the essence of war is "a violent struggle between two hostile, independent, and irreconcilable wills, each trying to impose itself on the other."¹⁷⁴ War is a manifestation of wills in opposition.

How exactly does a commander target the enemy's will? Manoeuvre Warfare's approach is through exploiting the advantage of superior tempo. Boyd's theory of the OODA loop views parties in conflict as going through repeated cycles of observation, orientation, decision, and action. As one party goes through their cycle consistently faster than their opponent, "the opponent finds he is losing control of the situation... Often he suffers mental breakdown in the form of panic or passivity and is defeated before he is destroyed physically."¹⁷⁵ This is destruction of the enemy's will.

Leaders provide the prospect of vulnerability in any force. They are their force's main source of will. In the words of the US Army's *FM 100-5 Operations*, "They inspire their soldiers with the desire to win, to accomplish the mission, and to persevere in the face of all difficulties. When the will of the enemy commander is broken, his force quickly disintegrates. Analysing

and attacking the underpinnings of his will therefore is key to victory.”¹⁷⁶ To the manoeuvrist, leaders are potential centres of gravity.

It is a common misconception among critics of manoeuvre theory that the focus on attacking the enemy’s will denies the need to attack the enemy’s physical aspects of combat power. They often seek the conclusion that manoeuvre theory seeks an impossible, bloodless victory. This is not the case. There is a definite need for killing and destruction in attacking the enemy’s will. Fires have a pivotal role to play, not only in attriting the enemy’s units and installations, but also in the selective targeting of vulnerabilities and centres of gravity.¹⁷⁷ According to Robert Leonhard, in our attempts to defeat the enemy “the principal target is the enemy’s mind; the attack of his mass is only relevant if it relates to the opponent’s psyche.”¹⁷⁸ Fires are used as part of the attack on the enemy’s will.

Manoeuvre theory’s focus on attacking the enemy’s will is enabled by the fact that war is a uniquely human endeavour. War is made up of many acts of violence based on some irreconcilable disagreement; it will inevitably be both shaped and inflamed by human emotion.¹⁷⁹ Given the amount of violence present, there will be uncountable moments when those participating find themselves in fear’s inescapable grasp. The US Marine Corps acknowledges that fear has a significant effect on the conduct of war, in that it corrodes the will of those who feel its grip.¹⁸⁰ *MCDP 1 Warfighting* stresses this with the words “War is an extreme trial of moral and physical strength and stamina. Any view of the nature of war would hardly be accurate or complete without consideration of the effects of danger, fear, exhaustion, and privation on those

who must do the fighting.”¹⁸¹ These factors all contribute to the strength, or lack thereof, of a force’s will.

The US Army’s *FM 100-5 Operations* notes that these effects are all magnified by the nature of modern conflict. “Combatants no longer deploy or defend in the ranks, files, and echelons of the nineteenth and early twentieth centuries. Distance from fellow soldiers can heighten fear and a sense of abandonment on the modern battlefield.”¹⁸² With the development of weapons with longer ranges, and advanced communications, the dispersion of troops on the battlefield is continually increasing. This is leaving them more vulnerable to attacks on their will to fight.

There are two ways of defeating an enemy, by destroying their physical ability to resist us, or through the destruction of their will to resist us. While acknowledging the inevitability of the former, Manoeuvre Warfare seeks the latter. The loss of will to fight makes the ability to do so irrelevant. The manoeuvrist’s approach is based on the view that war is a contest of wills, echoing Clausewitz’s notion of a *Zweikampf*. This is a notion that will exist for as long as wars are fought by human beings, subject to the effects of fatigue and emotion, effects that the technology-forced dispersion of soldiers on the battlefield can only magnify. Will can be targeted in a number of ways; leaders provide potential vulnerabilities to be exploited, while a superior tempo offers the opportunity to invoke panic and passivity in an enemy force. This approach does not call for some impossible ‘bloodless victory’ where firepower and killing is unnecessary. Instead, it seeks to use death, destruction, and killing to achieve ends other than the incremental attrition of an enemy force’s combat power.

Dislocation and Disruption

In the past two decades articles on manoeuvre theory have occupied vast volumes of space in military texts. Many of those writing these articles have drawn on the terms ‘dislocation’ and ‘disruption.’ The writings of Robert Leonhard and the US Marine Corps’ doctrine and warfighting publications offer clear explanations of these two terms, which often seem to be confused.

Dislocation is defined as rendering the enemy’s strength irrelevant. There are two types of dislocation, positional dislocation and functional dislocation. Positional dislocation seeks to remove the decisive point from the enemy, or the enemy from the decisive point. This renders enemy forces irrelevant to the fight.¹⁸³ This is linked to the concept of surfaces and gaps, in that friendly forces move through gaps, bypassing surfaces, and thus making them tactically irrelevant. Robert Leonhard offers the following examples of positional dislocation: using a feint to draw the enemy’s reserve (removing the enemy from the decisive point), and seeking a decision in the enemy’s rear, or some other area that they cannot successfully reinforce in time (removing the decisive point from the enemy).¹⁸⁴

This was the essence of Napoleon’s strategy of central position. He would move through the area between two enemy armies. As they moved to concentrate against him, Napoleon would quickly seek victory over one before the other could intervene; he could then turn his forces against the other (this is the internal lines concept that would later manifest itself in the Schlieffen Plan’s approach to fighting both France and Russia at the same time). This prevented the enemy from massing his strength by dislocating half

of it. The Battle of Waterloo, which was notable for Napoleon's lack of using this strategy, would prove to be his final defeat. World War Two offers a more recent example. The French defensive plan rested on the Germans attacking their Maginot Line or through Belgium as they had done in 1914. Germany dislocated these French strengths by attacking through the 'impenetrable' Ardennes forest with mechanised forces.¹⁸⁵ The fact that this involved a bloody battle as the German forces tried to cross the Meuse River, which cost them many casualties, does not detract from its status as a manoeuvrist approach. Manoeuvre and attrition both require the use of violence and battle. It is the goal of that violence which separates the two. In an attritional conflict, violence is employed to force an unacceptably high number of casualties on the enemy. In the terminology discussed earlier, it is used to inflict an unbearable functional exchange ratio on the enemy. In a battle fought according to the principles of Manoeuvre Warfare, violence is used to target enemy vulnerabilities and centres of gravity. Positional dislocation relies on making the enemy's strength irrelevant by removing it from the decisive point, or seeking a decision elsewhere.

Functional dislocation is less rooted in the notion of viewing enemy strengths in terms of where their combat forces are concentrated on the ground than positional dislocation is. Instead, it looks at the more intangible aspects of their strengths in making them irrelevant to the decision. Functional dislocation seeks to make the enemy strength irrelevant by neutralising it or making it inappropriate to the situation. Leonhard offers as an example the tactics of the fifteenth-century Bohemian soldier Jan Zizka, who led the Hussite rebellion against the emperor Sigismund. Zizka's forces were mainly

peasant infantry, while his enemy's strength was heavy cavalry. He relied on mobile field fortifications made by linking armoured wagons together, which were occasionally bolstered by entrenchment. This forced the enemy cavalry to dismount and fight on foot, neutralising the enemy's strength. These enclosed fortifications had the added advantage of ensuring that Zizka's untrained men were less inclined to flee, as they were packed in close to each other, and had nowhere to run to, so they were less likely to be routed and cut down by Sigismund's pursuing cavalry.¹⁸⁶ Functional dislocation looks at the enemy's strength in terms of the effect that strength has on our forces, and seeks ways to render those effects inappropriate.

Disruption is quite different to dislocation, and there are two different approaches to its definition. Leonhard sees the means of achieving disruption as the destruction of the enemy's centre of gravity.¹⁸⁷ The US Marine Corps offers another perspective, viewing disruption as an attempt to destroy the enemy's system. *MCDP 0-1 Marine Corps Operations* offers this definition of disruption: "To integrate fires and obstacles to break apart an enemy's formation and tempo, interrupt his timetable, or cause premature commitment or the piecemealing of his forces."¹⁸⁸ The essence of the US Marine Corps' view of disruption seems to be the destruction of the enemy's ability to effectively fight as a coordinated whole by shattering of his mental and physical cohesion.¹⁸⁹ This could well be achieved through the destruction of the enemy's centre of gravity, but as a concept, it is more than that. Destruction of a centre of gravity does not necessarily include an attack on the enemy's cohesion; however, disruption is a possible outcome of an attack on a centre of gravity.

While dislocation and disruption are two very different concepts, they may also be complimentary. If the enemy's centre of gravity is some asset or capability that enables their cohesion, then we could dislocate the forces or capabilities that the enemy is using to protect that centre of gravity in order to enable its disruption. Through their employment together, dislocation and disruption can enable decisive results.

Dislocation is rendering the enemy's strengths irrelevant, and can be either functional or positional. Functional dislocation looks at the effects that the enemy's strengths have on our forces, and seeks ways of neutralising those effects. Positional dislocation is an attempt seek a decision where the enemy is not prepared, leaving the rest of the enemy force irrelevant, or to lure the enemy away from where we intend to seek a decision, making that part of the enemy force lured away irrelevant. By contrast, the essence of the US Marine Corps' view of disruption is one of elimination of cohesion within the enemy's force. The differences between dislocation and disruption make them complimentary concepts, allowing forces which employ them together to achieve decisive results.

The Initiative

The concept of the initiative ties in with many aspects of Manoeuvre Warfare theory. It provides a firm link between tempo and the OODA loop. In battle it is something that no commander can afford to be without.

Simply put, ‘the initiative’ is acting first. In combat, the side that possesses the initiative is acting, not reacting; it is their opponent who is forced to respond. The side with the initiative is one step ahead of their enemy.

The US Marine Corps offers an excellent approach to understanding the initiative. *MCDP 1 Warfighting* states that “All actions in war, regardless of the level, are based upon either taking the *initiative* or reacting in *response* to the opponent. By taking the initiative, we dictate the terms of the conflict and force the enemy to meet us on our terms.”¹⁹⁰ Possession of the initiative allows us to impose our will on the enemy. One party must always take the initiative, for without one force attempting to impose its will on the other, there would be no conflict, and war is, after all, a clash of wills. If the enemy has the initiative, then we are compelled to respond or risk him imposing his will on us. Therefore, the response will most likely be directed towards the goal of seizing the initiative back from the enemy. The US Army notes that possession of the initiative requires a constant effort to cause the enemy to conform to our will.¹⁹¹ Therefore it is insufficient to direct our efforts towards seizing the initiative only; this effort must be continuous, once the initiative has been gained, it has to be retained.

Manoeuvre Warfare views seizing the initiative as a function of forcing the enemy to react. Major Stephen Bollinger, USMC, believes that this is achieved by “employing forces in a manner that compels the enemy commander to respond with significant forces or significantly alter his plans.”¹⁹² This could be achieved through the use of deception and surprise. Deception shapes one’s enemy into orientating inappropriately, while surprise

reveals his mistake to him in such a way that he finds it difficult to react effectively. Bollinger sees seizing and retaining the initiative as a means of achieving decisive results. Our actions may force the enemy to respond in a manner that exposes his vulnerabilities, or with forces that are inappropriate to the situation. This offers an opportunity to maintain pressure on the enemy and retain the initiative. If our actions threaten a critical vulnerability, then the enemy will be far more likely to be compelled to react to our actions. The longer we can threaten the enemy's critical vulnerabilities, the longer we will be able to retain the initiative as the enemy will be forced to constantly react to our actions.¹⁹³

One means of retaining the initiative is through the retention of an uncommitted reserve. Unemployed forces still retain influence in combat, as the enemy has to account for its potential employment, causing a further drain on the enemy's resources. Such forces could threaten an enemy vulnerability by their presence alone, compelling the enemy to allocate resources towards blocking this threat, resources whose employment might create gaps at other places or times on the battlefield.¹⁹⁴ This may not always be possible. Commanders may well find that the concentration of force in their Main Effort or employment of large parts of their force as a reconnaissance screen to enable reconnaissance pull tactics denies them the ability to maintain an uncommitted reserve. The US Marine Corps' approach reduces the need to dilute reserves to bolster the Main Effort, as the Main Effort is more likely to be given immediate or less-restricted access to supporting arms and logistical support than extra manpower. Thus when the reserve is employed it is given priority access to the original Main Effort's supporting arms. This allows a

change in Main Effort in a shorter time than would be necessary if changing Main Effort required the withdrawal and reallocation of forces committed in combat.

Viewing the initiative as compelling the enemy to respond allows it to be interpreted in terms of the OODA loop. Seizing the initiative would require completing a loop faster than the enemy could; retaining the initiative would be consistently completing cycles faster than the enemy. This is consistent with Bollinger's definition of maintaining the initiative as "employing forces in a manner that continually compels the enemy to react to that employment over a significant period of time."¹⁹⁵ Through completing OODA loops faster than the enemy, we consistently change the situation to one more favourable to us, we dictate the terms of the conflict, forcing the enemy to react to a situation that we have created. This is the essence of retaining the initiative.

By virtue of its links with the Boyd cycle, the initiative finds itself tied to the need for superior tempo than the enemy. *MCDP 1-2 Campaigning* acknowledges explicitly that retention of the initiative is largely a product of maintaining a tempo that is superior to the enemy's.¹⁹⁶ An occasional superiority in tempo will prove insufficient to retain the initiative. Forces that are capable of intermittent bursts of rapid operation, but then find that they have to pause for a period to recover, will likely find that they have ceded the initiative to their enemy during that halt. The challenge for commanders looking to retain the initiative lies not in maximising tempo, but in ensuring that it is consistently higher than their opponent's.

This makes the responsibility placed on the shoulders of the decision-makers all that much greater. The US Marine Corps rightly considers

decisionmaking to be a critical aspect of the conduct of war, since every action in a conflict occurs as a result of a decision being made, or failing to be made. *MCDP 1 Warfighting* makes this clear, “If we fail to make a decision out of lack of will, we have willingly surrendered the initiative to our foe. If we consciously postpone taking action for some reason, that is a decision. Thus, as a basis for action, any decision is generally better than no decision.”¹⁹⁷ Again, Clausewitz’s ‘friction’ finds an area of influence within manoeuvre theory. Commanders must come to terms with having to work in an environment filled with chaos and confusion. Commanders who choose to wait for certainty before making a decision may find that they have not only passed up an opportunity, but also passed on the initiative to their enemy.¹⁹⁸ Commanders must have the courage to make decisions in the face of uncertainty, or they will risk losing the initiative.

On the surface, it would seem that the defence would require the initiative to be ceded to the enemy. Indeed, the US Army’s *FM 100-5 Operations* acknowledges that the retention of the initiative implies the need for an offensive spirit in the conduct of all operations.¹⁹⁹ This does not preclude attempts to seize or retain the initiative in the defence. In the words of *MCDP 1 Warfighting* “the defense may confer the initiative if the enemy is compelled to attack into the strength of our defense. Under such conditions, we may have the positive aim of destroying the enemy. Similarly, a defender waiting in ambush may have the initiative if the enemy can be brought into the trap.”²⁰⁰

In some cases, the adoption of the defence might even be a means of seizing the initiative. Helmuth von Moltke (the elder) noted that “A clever

military leader will succeed in many cases in choosing defensive positions of such an offensive nature from the strategic point of view that the enemy is compelled to attack us in them.”²⁰¹ This is in line with the US Marine Corps interpretation of seizing the initiative as an action that forces the enemy to react. Major Joseph Medina, USMC, points out that in the defence, we must not merely react to the enemy’s offensive actions, but seek to impose some design on him.²⁰² It is in imposing this design on the enemy that the initiative is gained and retained. Seizing and retaining the initiative is relevant to both the offence and the defence.

In war, the side that possesses the initiative has the advantage of dictating some terms of conflict, and is often to impose its will on the enemy. Once gained, a force must make a continuous effort to retain the initiative, lest it be ceded to the enemy. The initiative is gained by doing something that forces the enemy to react in a manner that they had not intended. If this reaction forces them to expose some vulnerability, then decisive results may be achieved. The initiative can be viewed in terms of the OODA loop. This would see seizing the initiative as going through a single cycle faster than the enemy, and retaining it as consistently completing cycles faster. This links the initiative to the concept of tempo. The need to seize and retain the initiative places much responsibility on commanders. They must be willing to make decisions in the face of chaos, when waiting for certainty could see the initiative pass to the enemy. The initiative must not be seen as relevant only to the offence. This would see us lose the initiative every time we adopt the defence, leaving us forced to react to the enemy’s intent. In the defence we

must seek to impose some design on the enemy, and thus deny them the initiative.

Creating a Dilemma

In 1961 Joseph Heller published his novel *Catch-22*, which told the story of an airman trapped in a war that he saw as meaningless. 'Catch-22' soon became a popular expression, used to describe a situation in which someone was confronted by obstacles that could defeat all their attempts to escape from their predicament. This is the essence of creating a dilemma; the manoeuvrist must try to create a situation that allows the enemy no escape.

The US Marine Corps approach to creating a dilemma is through the employment of combined arms. Essentially, this requires the use of two or more different combat arms in such a way that the actions to enemy must take to avoid the effects of one arm makes him more vulnerable to the other. The enemy finds that they are in a 'no win' situation. In the words of one *Marine Corps Gazette* article on the subject of combined arms warfare written by a group of US Marine Corps officers along with noted manoeuvre theorist William Lind "From the enemy's standpoint, there is no "good answer"; whatever he does, he gets hurt. This means he faces not only physical but also psychological pressure. Combined arms helps destroy the enemy mentally as well as physically."²⁰³

At the tactical level of war, dilemmas are created through the employment of units that have different and complimentary effects on the

enemy. At higher levels, units are task organised, so that commanders can effectively employ their different capabilities together.²⁰⁴ *MCDP 1 Warfighting* proposes that commanders take advantage of the complimentary characteristics of different types of units, using each arm in a role that it can perform better than all others, perhaps by assigning aviation assets a task that cannot be performed equally as well by artillery. It goes on to offer as an example of combined arms at the very lowest levels the complimentary use of a grenade launcher and an automatic weapon within a fire team. High volume direct fire from the automatic weapon will pin the enemy down, making him vulnerable to indirect fire from the grenade launcher. If he moves to avoid the impact of the grenades, then he will expose himself to fire from the automatic weapon.²⁰⁵

The Battle of Waterloo provides an excellent example of the use of combined arms to create a dilemma. The French used their cavalry to charge at the Dutch and Belgian infantry. This forced the infantry to close up into squares, or risk being cut down by the cavalry. Once the infantry had closed up, the cavalry would withdraw a short distance while horse artillery was brought up. The infantry faced a dilemma, if they broke from the square, the cavalry would destroy them, but while in the squares, their being massed together allowed the artillery to inflict devastating losses.²⁰⁶ The use of combined arms allows a commander to place the enemy in a situation where, whatever they do, they lose.

Combined arms theory offers an explanation for the need to cover obstacles with fire. In order for an enemy to breach obstacles such as wire or mines, he must move slowly, making him more vulnerable to fire. If he is to

avoid the effects of fire he must move quickly and covertly, making him more vulnerable to the obstacle.²⁰⁷ In the defence, using fire to cover obstacles is a form of combined arms tactics.

To this end, the manoeuvrist avoids the use of ‘supporting arms’ tactics, which involves the superimposing on the enemy of weapons systems with similar effects. William Lind points out that while supporting arms tactics pose a problem for the enemy, they fail to create a dilemma. He offers the example of using both artillery and air assets, either simultaneously or in sequence, to attack an enemy in a defensive position. This would only force the enemy deeper underground, resulting in attrition, not a dilemma.²⁰⁸ Combined arms tactics requires the use of assets that produce different, but complimentary, effects.

Combined arms offers an opportunity to magnify a force’s combat power relative to the enemy. Using infantry to assault an enemy position while artillery fixes the enemy’s reserve provides an opportunity to achieve a local superiority, denying the enemy the flexibility to adjust to the situation you have created. If he chooses to use the reserve to support the battle, he will expose it to the artillery while it moves, if he instructs it to take cover from the artillery, it becomes irrelevant to the battle, it will be positionally dislocated. David Grossman has noted that aerial and artillery bombardments have only been psychologically effective in the front lines, where they have been combined with the threat of physical attack.²⁰⁹ Employed correctly, combined arms can act as a force multiplier.

The US Marine Corps approach to creating a dilemma is through the use of combined arms tactics to present the enemy with a ‘no win’ situation.

The perfection of such tactics is the use of two complimentary arms together in such a way that to avoid the effects of one, the enemy makes himself more vulnerable to the other, explaining the need to cover obstacles with fire when in the defence. In creating a dilemma, the manoeuvrist avoids the use of supporting arms tactics, which use weapons or forces to achieve the same effect, as this does not offer the same prospect of decisive results as a combined arms approach. Combined arms serves to magnify the effects of combat power.

THE LEVELS OF WAR

The levels of war are doctrinal concepts that clarify the links between actions at the lowest level and objectives at the highest. Despite their title, the levels of war are actually relevant in times of both war and peace. Known as the strategic, operational, and tactical levels, the boundaries between the three levels are fluid, but can be subjected to general definition. However, there is presently a general trend towards increasing inter-relationships between the levels. Advances in information technology and media reporting have both contributed to this trend, as they create opportunities for an event at one level to immediately influence the other two.²¹⁰

The strategic level of war exists where the national command authority translates government policy into strategic military objectives. *Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms* defines the strategic level as:

The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) security objectives and guidance, and develops and uses national resources to accomplish these objectives.²¹¹

Essentially, strategy is the employment of a nation's armed forces, in times of both peace and war, in order to secure national objectives, which are defined by government policy. The *Joint Doctrine Encyclopedia* divides the strategic level into two: the National Security Strategy, which is derived from policy, and the National Military Strategy, which is derived from the National Security Strategy.²¹² This ensures that Military Strategy is always subordinate to National Military Strategy and thus policy.

The Second World War provides an example of the use of strategy. *MCDP 1-1 Strategy* notes: "It was immediately apparent that, given the global scale of the conflict, the strength of the enemy, and the differing political objectives, philosophies, postures, and military capabilities of the Allied nations, a unifying strategy was needed."²¹³ The strategy adopted by the Allies called for the defeat of Germany first, followed by Japan. This enabled the Allies to decide on an appropriate division of labour and priorities between the European and Pacific theatres. The development of the concept saw Germany being engaged through continuous offensive action until the launch of a decisive blow from Britain, and the containment and harassment of Japan until sufficient resources became available to go on the offensive in the Pacific. This ultimately led to the achievement of both the military and political objective, the unconditional surrender of Germany and Japan.

The operation level of war links the strategic level with the tactical level, and in terms of military thought, is a very new concept. It does not exist at all in the writings of the classical military theorists. Both Clausewitz and Jomini saw war as being fought at the tactical and strategic levels alone. This is largely due to the military capabilities of their times. Theirs was the age of the decisive battle, when battles were rarely longer than a day in duration and the outcome of a single battle could prove so significant as to achieve strategic success. The vast numbers of men and materiel involved in war, and the enormous distances they covered during the late Nineteenth, and early Twentieth Centuries saw this definition become obsolete. When a single battle alone began to prove insufficient to achieve a decision, commanders began to realise that some battles were more important than others. Sir Basil Liddell-

Hart's derision of Clausewitz on the basis that war was an extension of policy, and that he was responsible for an obsession with battle among European military minds contributed to the examination of the established view that there were only two levels of war. Changes in the nature of war gave birth to the operational level.

Joint Pub 1-02 defines the operational level:

The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theatres or areas of operations.²¹⁴

Actions at the operational level imply a broader dimension of time and space than those at the tactical level, that is, they last longer and take place over a wider area. They provide a framework for ensuring that actions at the tactical level contribute to desired outcomes at the strategic level. The *Joint Doctrine Encyclopedia* views this as a means for commanders to understand the conditions of victory before seeking battle, thus allowing them to try to avoid battles that do not contribute to strategic success.

Operational mobility is a key factor in the ability to avoid unnecessary battle. During the Second World War, the Allies exploited an advantage in operational mobility over the Japanese in the Pacific theatre. Throughout much of their island-hopping campaign, they could shift their forces faster than the Japanese could. In the words of *MCDP 1-2 Campaigning* "The result was that Japanese forces were cut off and allowed to wither while the Allies consistently moved towards the Japanese home islands to bring them under direct attack."²¹⁵ The exploitation of an advantage in operational mobility allowed the Allies to avoid battles that they did not need to fight.

The *Joint Doctrine Encyclopedia* states: “Without operational art, war would be a set of disconnected engagements, with relative attrition the only measure of success or failure.”²¹⁶ Thus the operational level exists to guide commanders towards tactical actions whose outcomes contribute to strategy through means over and above the attrition they produce.

The First Battle of Bull Run, which took place during the American Civil War, serves to illustrate the operational level’s role in linking tactics to strategy. The Union strategy at the start of the war, the Anaconda Plan, was to close off Southern ports and isolate the Confederacy by interdicting transport and communications routes. This stranglehold would force an economic collapse. Early in the war, Irvin McDowell (commander of the Army of the Potomac), under pressure from politicians and the public, was coerced into launching a drive on Richmond that climaxed in the First Battle of Bull Run. Leonhard believes that the fact that the North lost the battle was irrelevant, because whatever the outcome, the battle made no contribution to the success of the overall plan. McDowell had reluctantly embarked on a campaign to capture Richmond, which caused him to fight a battle at Bull Run, when neither the campaign nor the battle served to support the strategy (the Anaconda Plan). Leonhard proposes that “the resources thus lost – men, materiel, morale, and time – were in every sense wasted, because there was no chance of advancing the strategic plan.”²¹⁷ The operational level of war exists as a guide for commanders to ensure that any battles they fight serve to further the strategic plan, so that they do not end up fighting their own ‘Bull Run.’

The tactical level of war deals with units in combat. *Joint Pub 1-02* defines it:

The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives.²¹⁸

The *Joint Doctrine Encyclopedia* draws the distinction between engagements and battles in that engagements are generally short in duration and involve small forces, while a battle consists of a series of related engagements. A Battle is generally longer than an engagement and will involve larger forces; it could also effect the course of a campaign. Combat between two individual aircraft would be an engagement, while combat between two fleets would be a battle.²¹⁹

This definition of the tactical level of war is too narrow. It fails to define the tactical level in times of peace, since, by definition, combat does not occur in peacetime. The US Marine Corps builds on this definition of the tactical level by extending it to the schemes and methods employed to achieve missions in non-combat situations, which can include enforcing order and maintaining security in peacekeeping situations.²²⁰

The US Marine Corps further divides the tactical level of war into 'tactics' and 'techniques.' While tactics is the art and science of winning battle and engagements, techniques are used to accomplish a specific task within a tactical action, and are commonly known within the New Zealand Army as 'drills.' Techniques might include the operation of weapons and equipment, the call for fire, or techniques of fire. There is some overlap between the two, but the main difference between tactics and techniques lies in that tactics requires judgement and creativity, while techniques usually

involve routines that are rehearsed repeatedly so that they can be accomplished quickly and accurately.²²¹

The actions of a platoon in contact illustrate the two. When the platoon first comes under enemy fire, the response is a technique established in training and guided by their rules of engagement. They may, for example, seek cover, locate the enemy, and return fire. If the situation demands that they destroy the enemy, then the decision as to whether they should choose to outflank, encircle, or frontally assault the enemy is tactical. Such a decision could never be reduced to a technique, as the result may well prove inappropriate to the situation or predictable (and thus exploitable).

Some commentators have tried to link the levels of war with units' sizes (their echelon of involvement). Leonhard does this in *The Art of Maneuver* where he relates the strategic level (in the US Army) to the National Command Authority, the operational to theatre, army group, army or corps sized units, and the tactical level to units equal to or smaller than a corps in size.²²² This approach adds little to the definition of the levels of war. *FM 100-5* stresses the fact that the levels of war are defined more by the consequences of their outcome than the echelon of involvement (size of unit).²²³

The inaccuracy of defining the levels of war by echelon of involvement can be seen in the comparison of New Zealand's current commitment to the United Nations Transitional Authority East Timor (UNTAET) with the United State's commitment to Operation Restore Hope in Somalia. Each deployment can be seen as a close mesh of the strategic and operational levels for the two nations involved. Both deployments saw those

nations using their national resources to achieve multinational security objectives. However, New Zealand's commitment is a battalion group of approximately 600 troops, while the United States' commitment was a task force whose size peaked at almost 30,000 personnel. This huge difference in size shows that any attempt to define the levels of war by echelon of involvement will result in a definition so vague as to be useless.

The levels of war are doctrinal perspectives that clarify the links between military actions at the lowest levels and political goals at the highest. The levels must be defined by the outcomes of actions, not by the size of the units executing those actions.

Historical Examples of Manoeuvre Warfare

The examples that follow are the main historical examples used to support manoeuvre theory in the core texts on the subject. These key examples show that manoeuvrists almost exclusively use operational level examples when proposing historical precedent for Manoeuvre Warfare. In such an analysis, the distinction must be drawn between the use of historical examples in support of manoeuvre theory, and the use of historical examples of manoeuvre theory. The latter is largely impossible. History cannot provide examples of Manoeuvre Warfare in action. As a theory, it is too new to have been applied in any of history's great conflicts; it has only existed as a complete theory for approximately two decades. Battles and campaigns that occurred during the Second World War, American Civil War, or earlier could not have been fought according to a doctrine of Manoeuvre Warfare, as manoeuvre theory simply did not exist at those times. That said, those battles and campaigns can provide examples of aspects of manoeuvre theory in action, as many of the tenets that combine to form manoeuvre theory have existed for hundreds, and in some cases, thousands, of years. Manoeuvrists look to these examples to provide evidence of the viability of their theory's worth. Thus the examples that follow are used by manoeuvrists not to illustrate a force's use of manoeuvre theory as a whole, but as building blocks that can be pieced together in the search for this goal.

Rommel at the 12th Battle of Isonzo

David Grossman uses the example of Rommel's actions during the 12th Battle of Isonzo to illustrate manoeuvrist-style small unit tactics at the tactical level of war. This battle took place on the Italian front during the First World War.

Following an extensive artillery preparation and under the cover of heavy rain the Germans launched their attack at dawn on 24 October 1917 against a forewarned Italian force defending in rugged mountain terrain in a series of three well-prepared defensive belts. The first defensive belt had been devastated by the German artillery, allowing Rommel's three-company detachment to quickly penetrate and infiltrate the second belt. The garrison of Italians defending the second belt had not realised that the first belt had fallen, and took cover from the heavy rain in their dugouts. This allowed Rommel to work his way around them and approach them from the rear, forcing many to surrender.

Rommel conducted extensive reconnaissance during the night and followed up his success with a penetration of the third line. This allowed him to move deep into the Italian rear. The further he travelled behind the front lines, the less prepared and alert was his enemy. This enabled Rommel to capture Mount Matajur, behind the Italian positions, and secure a key mountain pass that formed the main supply route to the northern part of the Italian front. During this battle, Rommel captured 150 officers and 9000 men, at a cost of only six dead and thirty wounded.²²⁴ The Italian figures do not include the number who voluntarily surrendered after being cut off.

Rommel's experience shows the effects of tempo at the tactical level. The further the defenders were behind the front line, the less prepared they were for battle. They simply did not expect a detachment of German soldiers to appear and attack from their rear. In his book *Infantry Attacks* Rommel recalled his actions on a winding road behind the Italian lines: "At frequent intervals, sometimes only a few yards apart, we ran into an unsuspecting enemy standing or marching down the road. He never had an opportunity to use his arms before being taken. A sign to disarm and a gesture towards the east were enough to start the weaponless Italians marching down our column toward Hill 1192. They were all paralyzed by our sudden appearance."²²⁵ In terms of the OODA loop, their observation was that they were far behind the front, and thus distant from the enemy. Orienting on this, their decision led to complacency. They were not only unprepared physically for the appearance of German soldiers, they were unprepared mentally. Through stealthy movement, Rommel was able to appear unexpectedly and change the situation so rapidly so quickly that the Italian defenders could not respond effectively, and surrendered. In this situation, Rommel was able to introduce the significant and sudden change to the situation that is necessary for the exploitation of superior tempo to be effective in ground combat.

In order to maintain tempo, Rommel ensured that reconnaissances were conducted while his men rested. He would almost always use officers and NCOs in his reconnaissance groups as they carried smaller loads than the men and were thus less effected by fatigue.²²⁶ Rommel recalled that "While the exhausted troops rested, the officers were untiringly active in determining precise information regarding the enemy and the terrain."²²⁷ If the

reconnaissance group came across an unprepared enemy element, they would capture them, and send back a runner to pull the remainder of the force through the gap thus created.²²⁸ Rommel's actions provide an example of the modern manoeuvrist concept of reconnaissance pull in action.

Rommel's capture of Mount Matajur illustrates the effectiveness of yet another aspect of contemporary manoeuvrist doctrine. On one occasion, he disobeyed a written order from his battalion commander to pull back. However, his decision was based on the knowledge that doing so would not achieve his commander's intent, and that the order was issued without knowledge of his situation.²²⁹ Major Sprösser, Rommel's commander, had assumed that the great number of prisoners that had been taken by Rommel's detachment (over 3200 men) indicated that Italian resistance on Mount Matajur had been broken, and had ordered the withdrawal of Rommel's detachment. This order to withdraw saw the bulk of Rommel's detachment retire, only the 100 men and six heavy machinegun crews who had not received the order remained. Rommel debated breaking off the engagement, but soon concluded: "No! The battalion order was given without knowledge of the situation on the south slopes of the Matajur. Unfinished business remained."²³⁰ Rommel continued his attack, despite his numerical weakness. In doing so he managed to capture the 2nd regiment of the Salerno Brigade, over 1200 strong, whose mass of surrendered soldiers soon attracted further prisoners, with both armed and unarmed squads of Italian soldiers moving to join it. An Italian company surrendered when Rommel unexpectedly appeared in its rear, and the 120-strong garrison of the Matajur summit surrendered just as Rommel prepared to launch his final attack.²³¹ Through this display of

decentralised command ensuring action in line with his commander's intent, Rommel was able to carry out a successful attack and capture Mount Matajur.

Wavell and the 1st Libyan Offensive (Operation Compass)

US Army Major Harold Rough uses Operation Compass as an example of some of the tenets of Manoeuvre Warfare in action at the operational level of war. On 11 September 1940 Wavell instructed the Joint Planning Staff to prepare for the expected Italian invasion of Libya to seize the Suez Canal. According to Rough, this was the true starting point of Operation Compass.²³² The Italian advance began two days later, and despite being cautious and slow from the outset, halted unexpectedly after four days. Wavell started to plan to launch an attack in November, but had to delay this until December due to the drain on resources brought about by the Italian invasion of Greece in October.

Wavell identified a weakness in the Italian defensive plan, which relied on a system of fortified camps. The camps were too far apart to be mutually supporting. He hoped exploit this weakness by using surprise to defeat the camps in detail. His plan called for the 4th Indian Division to destroy or capture the Nibeiwa and Tummar camps, while the 7th Armoured Division acted as a screen to prevent the Italians sending reinforcements from the Sofafi area. The Italians had left themselves exposed to the use of positional dislocation. In establishing their camps too far apart, the Italians ensured that when one was attacked, the others were irrelevant.

In the meantime, Wavell used the Long Range Patrols (which would later become famous as the Long Range Desert Group) to attack Italian outposts, airfields, and deep into enemy territory. These aided in masking Wavell's intentions, and created the impression that the British could simultaneously appear in areas 600 miles apart. He also employed an elaborate deception plan. He used double agents to pass false information to the enemy, spreading information on a massive British troop buildup on the Italian right flank. Dummy tanks and guns, along with a platoon of natives who used their camels and horses to drag large wooden frames, stirring up huge clouds of dust, deceived the Italian reconnaissance aircraft, whose photographs appeared to confirm the stories.

In terms of the OODA loop, this deception plan ensured that the Italians 'oriented' on a false 'observation.' Ultimately, when the British would attack, this deception plan would allow the British to change the situation so drastically as to make the decision and action phases of the Italians' decision cycle largely irrelevant. Wavell further contributed to this deception by spending the weekend of 7 and 8 December at the races at Gezira and enjoying lavish entertainment with his family.²³³ This ensured that the leader of the British forces in North Africa seemed relaxed and unconcerned with military matters when, in fact, his force was carrying out the preliminary moves necessary to launch an attack against the Italians.

The British were aided in their preliminary movement by the fact that their entire Western Desert force was either mechanised or motorised. This enabled them to travel the 75 miles required by the preliminary movement in two days. The final phase of the move was conducted at night, with British

aircraft bombing Italian camps and flying over the area concealing the noise of the movement. This also served to keep the Italian aircraft on the ground, denying them aerial reconnaissance to detect the advancing British.²³⁴ Here, the British advantage in operational mobility ensured that they would seize the initiative.

In the battle that followed, the British captured Nibeiwa and the Tummar camps. Building on their victory, the British captured Sidi Barrani, destroyed two divisions and captured another two over the next few days. Italian resistance crumbled from this point onwards. In three days the British had captured 38,300 prisoners at a cost of 133 killed, 387 wounded, and 8 missing.²³⁵ Despite increasing demands on his resources, Wavell was able to continue Operation Compass, capturing Bardia, Tobruk, and Beda Fomm. Throughout the entire campaign, Wavell destroyed the Italian 10th Army (9½ divisions strong), capturing 130,000 prisoners, at a cost of only 500 killed, 1373 wounded, and 55 missing. This is even more impressive given that the British were never able to field a force larger than two divisions, about 31,000 men in total.²³⁶

Operation Weseruebung – The German Invasion of Scandinavia

The German invasion of Scandinavia, Operation Weseruebung, took place in April 1940. Richard Hooker and Christopher Coglianese use this as an example of operational level warfighting that illustrates some areas of the contemporary manoeuvrist paradigm. While German planners had hoped to keep Scandinavia neutral, they feared that the Allies would violate this

neutrality in order to position their forces for an attack onto Germany's northern flank. Norway also provided the German Navy and with a base from which they could gain control over the Norwegian Sea and eventually support operations against Great Britain. Possession of Scandinavia would also ensure uninterrupted access to Swedish iron ore, which travelled by sea along the Norwegian coast to German ports in the Baltic.²³⁷ In Hitler's eyes, holding the iron ore port at Narvik was the most important goal of Operation Weseruebung.²³⁸ According to Adam Claasen, British and French planners saw their most strategically important aim in Scandinavia to be the denial of iron ore to Germany.²³⁹

The invasion began on 9 April 1940, with landings at Oslo, Bergen, Kristiansand, Trondheim, and Narvik. Supplies had been propositioned through the disguising of supply ships as commercial craft, which preceded the assault ships and lay in wait in the Norwegian Harbours.²⁴⁰ The British Admiralty did not believe that the German ships were intending to land troops in Norway, Germany's use of fast moving warships as assault troop transports instead of traditional troop ships may have contributed to this incorrect conclusion. Ultimately the Royal Navy would steam off to prevent what they saw as an attempt to break out into the Atlantic to disrupt shipping, ensuring that they did not oppose the German landing operations.

According to Hooker and Coglianese, "The magnitude and speed of the German landings completely paralysed civilian and military leaders in both Denmark and Norway, as well as the Allies."²⁴¹ Denmark was overrun on the first day, ensuring that German close support aircraft could use its airfields. While the Germans encountered resistance from the coastal

defenders at the Oslo fjord, the only landing not to encounter minimal resistance was that at Narvik. The German success was due to the effect that their landing had on the Norwegian tempo. The Germans presented the Norwegians with so many attacks so quickly over such a wide area that the Norwegian decisionmaking cycle faltered. Once on the ground, the German force's use of brief mission orders ensured that they could act faster than their opponents, who relied on a more detailed and methodical approach to planning and execution.

The German invaders also sought to disrupt the Norwegian Army. They had identified the Norwegian mobilisation as a key weakness, and sought to hinder it at any opportunity. Mobilisation centres were under constant assault, and the Germans captured most weapons depots and mobilisation lists almost immediately. While hundreds of young men left the towns and cities to join the forces of General Ruge, appointed commander-in-chief after the invasion, the resulting force was barely comparable to anything that could have been formed under an unobstructed mobilisation. It was untrained, its units had little equipment, and its inability to manoeuvre made it useless for offensive operations. The German identification of this Norwegian vulnerability allowed it to disrupt their mobilisation to the degree that Norway was unable to field an effective fighting force.

Hooker and Coglianese's account of Operation Weseruebung is largely biased towards superior operational and tactical tempo forming the basis of the German victory. While this may have been the case in the initial stages of the campaign, Claasen's version of events in his book *Hitler's Northern War* serves to balance this approach through his analysis of the role

of air power in Operation Weseruebung. Claasen attributes much of the German success to their air superiority. The Germans had been able to support their naval landings through airborne transportation of reinforcements, an option denied to the British through their failure to develop a cheap and reliable transport aircraft prior to the war.²⁴²

At Namsos, German aircraft were able to destroy the town's wooden wharves and all of the rolling stock on the railroad. Unable to receive supplies due to the destruction of his port facilities, the commander of the Allied forces at Namsos signalled the war office: "I see little chance of carrying out decisive, or indeed any operations, unless enemy air activity is considerably restricted."²⁴³

Claasen believes that the loss of these aircraft was the turning point in the campaign in central Norway. When General Massy, commander of the Allied expeditionary forces on either side of Trondhiem, heard of their destruction he realised that his forces had no hope of competing with the Luftwaffe in Norway, and that this had made an evacuation of Allied troops necessary.²⁴⁴ Claasen's view of the role of air power in the Norwegian campaign balances the emphasis placed by Hooker and Coglianese on the influence of superior German tempo.

Operation 25: The Wehrmacht's Conquest of Yugoslavia

John Antal uses Operation 25, the German invasion of Yugoslavia, to illustrate manoeuvre-style warfighting at the operational level of war. The German invasion occurred as Hitler could not launch Operation Barbarossa,

the invasion of Russia, while the Yugoslavs, Greeks, and British could threaten his southern flank. A secure Yugoslavia ensured a secure Balkans. The rapid securing of Yugoslavia would also allow the German Twelfth Army to bypass Greek defences by swinging through Yugoslavia to take the Greeks in the flank and rear.²⁴⁵

Further, Yugoslavia was an important source of the supplies and raw materials necessary to feed the German war machine. Its production of tin was sufficient to meet almost all of Germany's requirements. Yugoslavia also supplied about one third of Germany's demand of aluminium, and was her only major source of copper, lead and hemp in wartime Europe.²⁴⁶ When General Simovic, the commander of the Yugoslav Air Force, executed a coup d'état against the Yugoslav government on 26-27 March 1941, cancelling a recently signed treaty between Germany and Yugoslavia, Hitler decided to invade.

At a glance, the Yugoslavs seemed more than capable of defending their nation from invasion. Their Army was more than a million strong, with a strong will to fight. The Balkans was also considered to be poor tank country. According to US Army Major John Antal "It was widely accepted that the German blitzkrieg would meet its match along the treacherous winding roads, the steep mountain passes, the wide rivers, and the poorly bridged defiles of Yugoslavia."²⁴⁷

However, the Yugoslav Army had a number of weaknesses, which ensured that the ensuing operation would not be as easy for the Yugoslavs as it appeared on paper. Simovic chose to try to defend the cities as well as the vital regions, in order to maintain the integrity of the ethnically divided

nation. In trying to defend everywhere, the Yugoslav Army ended up spreading itself too thin. The Yugoslav Army was also equipped with out of date Czechoslovakian equipment, which it was unable to get spare parts for as Czechoslovakia had joined the Axis. The Army's movement also relied on the mobilisation of 900,000 horses, oxen, and mules, which had not been mobilised. It's leadership expected the same tempo of operations as the First World War, and nobody expected the Germans to attack quickly, or to use massed armour in the mountain tracks and narrow roads.²⁴⁸ This ensured that the Yugoslav 'orientation' aspect of their OODA loop was inappropriate from the start. The nation was still divided internally by ethnic differences. Simovic did not have time to attempt to heal the ancient divisions between the Serbs and the Croats. Indeed, many Croats considered themselves ethnic Germans, not Slavic Serbs, and openly sided with the Germans. This particular weakness could only serve to increase the likelihood of disruption within the Yugoslav force.

The Luftwaffe spearheaded the German attack, their target Belgrade, the Yugoslav capital. Early on 6 April 1941, the German aircraft attacked in three distinct waves. The first wave destroyed the Yugoslav Air Force (much of it on the ground) and anti-aircraft defences.²⁴⁹ This was in line with Hitler's War Directive #25, issued on 27 March, which dictated the Luftwaffe's first objective: "As soon as sufficient forces are available and the weather allows, the ground installations of the Yugoslav air force and the city of Belgrade will be destroyed from the air by continual day and night attacks."²⁵⁰

With Belgrade essentially defenceless against further air attack, the second and third waves destroyed the city's principal government and military

facilities. To quote Antal: "Before 9:00 A.M. on the first day of the war, the Yugoslav government, along with the military nerve centre for the Yugoslav armed forces, ceased to exist."²⁵¹ The munitions dropped in the afternoon by the second wave of aircraft contained a mix of 40% high explosive and 60% incendiary, in order to cause fires and ease the problem of marking the city for the third wave, which would arrive that night.²⁵² Their central nervous system heavily battered, the Yugoslavs' ability to react effectively to the German ground attack was considerably reduced.

The German campaign plan specifically excluded the bombing of either industrial plants or the Yugoslav transportation network. This would facilitate German employment of the Yugoslav economy, specifically its production of raw materials, in the shortest possible time following the German invasion.²⁵³ Sparing the transportation network would also have aided the German ground campaign that followed the initial air attack, as it would have ensured that the air attacks had little effect on the mobility necessary for the swift ground advances to follow.

The Yugoslav reliance on dispersed linear defences left them exposed to the deep penetrating attacks that characterise blitzkrieg. The Germans achieved surprise through concentration and speed, and ensured that momentum was maintained during both night and day. They executed deep penetrations in order to disrupt Yugoslav defensive positions, headquarters, reserves and supplies. Mixed panzer groups and Luftwaffe aircraft ensured that the pressure on the Yugoslavs was not relaxed, and that the Germans retained the initiative. The pressure of these deep penetrations caused massive disruption in the Yugoslav Army. Croatian soldiers mutinied, with both

individuals and whole units surrendering to the Germans. Soon, they would be fighting each other. Unable to synchronise their defence, the Yugoslavs found that they broke down into isolated pockets of resistance, which were easily mopped up. The Germans had disrupted the Yugoslav force through the destruction of its command and control ability, and through the use of deep penetrations. This strained the Yugoslav's weak internal cohesion to the breaking point, bringing about their collapse.

On 13 April, 8th Panzer Division occupied the centre of Belgrade, the population offered no opposition, and surrendered unconditionally. The Wehrmacht then moved quickly to prevent the remaining Yugoslav forces from withdrawing into the mountains, and quickly converged on Sarajevo. On 15 April, the last surviving Yugoslav field force surrendered, and an armistice was signed two days later.

German Defensive Tactics in 1917

During the winter of 1916-17, the Germans changed their defensive tactics from the use of trench systems to hold ground to a system of defence in depth, relying on strong points and counterattacks. William Lind believes that this latter system reflects a manoeuvrist approach to the defence at the tactical level of war.²⁵⁴

The trenches were essential for day to day living, but when attacked, were easy targets for artillery. While the construction of deep dugouts offered protection from artillery, soldiers often remained in them for too long after an

enemy barrage lifted. The new approach called for soldiers to vacate their trenches and take up positions in shell holes when they came under fire.

When the attackers appeared, the soldiers would open fire from their shell holes. Having expected the artillery to eliminate all resistance in the forward areas, the attackers would be slowed, and their creeping barrage would continue without them. This disrupted the attackers, denying them the combined arms approach on which their attack was based. They would also encounter fortified strongpoints, designed for all-round defence. These were not part of a linear defensive system, and were expected to continue to fight when cut off by the enemy advance. It seems that this can be viewed in terms of tactics of surfaces and gaps. Through concentrating their forces in fortified strongpoints, often situated to provide enfilade fire, the Germans presented their attackers with large areas empty of troops. To attackers familiar with trench warfare, these areas were gaps, as they lacked defenders. However, these areas were actually surfaces, as they were killing zones for the strongpoints. It appears that in the defence, the manoeuvrist tries to disguise their gaps, and lure the enemy into their surfaces.

With the enemy advance slowed, the Germans would concentrate their artillery against the rear of the attacking force, cutting them off from reinforcements and supplies. Weakened and with only a tenuous hold on the unfamiliar territory they found themselves in, the attackers were at their most vulnerable to German counterattack. These counterattacks were enabled by the decentralisation of command that existed within the German military. Timely decisions to launch counterattacks could be made on local initiative. The use of artillery against the attackers' rear further added to the their

disruption, and was effectively a form of positional dislocation. It allowed the Germans to defeat the attacking force without it being supported by other units as those units were cut off from reinforcements by the artillery barrage.

It appears to the current author that the aim of the manoeuvrist in the defence is to deny the enemy the elements of manoeuvre theory that we seek to achieve in the offence. Through abandoning their established positions and defending from shell holes when the attackers expected no opposition, the Germans slowed the attackers' tempo. They forced them to make decisions and carry out unanticipated actions as they had 'orientated' on an enemy who they believed their artillery had destroyed. This served to disrupt the enemy, and deny them the combined arms approach on which their attack was based. The manoeuvrist in the defence also seeks to disguise their own gaps, and lure the attacker into their surfaces.

Genghis Khan's Conquest of Transoxianna

Genghis Khan's conquest of Transoxianna in 1219-20 is an example of some aspects of manoeuvre theory at the operational level of war. Genghis Khan's war with the Turks began when a Turkish governor murdered a group of merchants under the Khan's protection, and then killed an ambassador sent to resolve the situation. The Turks, under Muhammad II, assembled a huge army along the Syr Darya River defending against the expected Mongol approach from the east, with a fortified line of communication back to Samarkand, the regional capital. Muhammad expected to decide the issue

through exploiting the advantage of his numerical superiority in one decisive battle.

Genghis Kahn appeared to offer Muhammad the battle he desired. He sent a force under Jochi, his eldest son, to threaten Muhammad's right flank. Jochi attacked his numerically superior foe in the Fergana Valley, inflicting many casualties before withdrawing. Muhammad's officer's believed that they had fought their decisive battle, and remained in their positions along the river. However, Jochi continued to act, operating along Muhammad's front.

What Muhammad had not realised was that the outcome of the Battle of Fergana was irrelevant. Jochi's actions had served to fix Muhammad's army in place. Genghis Kahn's northern corps, lead by Subedai and the Kahn himself, travelled through the Kizil Kum desert south of the Aral Sea, an area considered impenetrable by Muhammad, and enveloped the left flank of Muhammad's static force. As Muhammad began to move his reserves east to deal with Jochi Genghis Kahn suddenly and unexpectedly appeared around the city of Burkhara, four hundred miles to Muhammad's rear. The city fell when this sudden onslaught caused its garrison to lose heart. This is an example of the contemporary concept of surfaces and gaps. The Turks believed the Kizil Kum desert to be impenetrable, its very nature making it a surface that they did not have to protect by force. Genghis Kahn proved them wrong, travelling through the undefended area unnoticed. Robert Leonhard notes that "Without yet having fought a "decisive" battle, Genghis Kahn's numerically weaker army had dislocated (i.e. rendered irrelevant) most of Muhammad's army."²⁵⁵ The Mongols were keen to maintain tempo, as they

paused in Burkhara for only two hours before continuing on to Samarkand, Muhammad's strongest city, which fell in only six days.

Leonhard proposes that Burkhara was the operational centre of gravity of Muhammad's army. Prior to the fall of Burkhara, the Mongols had fought hard, however, there is no evidence of cohesion within Muhammad's force after the city fell, and even Samarkand capitulated with little resistance.²⁵⁶ Leonhard proposes two reasons for Burkhara being the Turkish centre of gravity. The first reason being that it was the principal city along their line of communication back to their home region. The second reason being that the Mongols attacked it. Prior to this, the city had been of little concern to Muhammad, but the psychological impact of attacking an area thought to be entirely safe was immense.

This can also be seen in terms of Boyd's OODA loop. The Turkish orientation was based on their (incorrect) observation that the Mongols were to their front, and had been defeated. Genghis Khan's appearance in their rear changed the situation so much so suddenly that it paralysed the Turkish decisionmaking cycle. Like Boyd's Korean War fighter pilots, Muhammad's troops experienced a mental breakdown, panicking or becoming passive, and were defeated while the bulk of their army remained undestroyed in the field.

While the Mongol conquest of Transoxiana provides an excellent example of a campaign fought along manoeuvrist lines, it would be incorrect to conclude that the Mongols always fought in this way. In fact, Transoxiana was an aberration in Mongol warfighting, and despite their successful employment of tactics akin to modern manoeuvre theory, they did not employ them again. The more common Mongol approach to warfighting was quite

different. Erik Hildinger identifies the following as hallmarks of Mongol warfighting: speed in moving over great distances, coordination in the use of separate forces to achieve strategic ends, successful siegecraft, and the calculated use of terror.²⁵⁷

It could be argued that some of these hallmarks reflect manoeuvre theory. The coordination of separate forces to achieve strategic ends could be viewed as a form of commander's intent. Indeed, even the calculated use of terror can be interpreted in manoeuvrist terms as an attack on the enemy's will to fight. During his invasion of Russia, Genghis laid siege to Riazan in 1237, having supplemented his siege trains with Arabic and Chinese engineers. The Mongols surrounded the city with a wooden stockade to prevent both sallies from within and relief from the outside. They bombarded the city for five days, storming it on the sixth. Once the city was in their hands, the Mongols burned the bishops and priests to death, and killed many of the city's inhabitants, including women and children.²⁵⁸ According to Hildinger "The city was fired, the population largely slaughtered, and a small number allowed to flee so that terror would spread."²⁵⁹

One could argue that this was merely Genghis' way of exploiting his enemies' centre of gravity, their will to fight. Through his slaughtering of civilian populations, Genghis destroyed his enemies' will to resist. While this view might satisfy the conditions of manoeuvre at a base level, it clearly violates the moral code of conduct that contemporary practitioners of manoeuvre theory are bound to. While the Mongol's coordination of separate forces to achieve strategic ends, and possibly their calculated use of terror do reflect contemporary manoeuvre theory to a degree, they fall far short of

providing the usual Mongol approach to warfighting with a close link to modern manoeuvre theory.

These examples reveal a general trend in the use of history to provide precedents for Manoeuvre Warfare, or aspects of Manoeuvre Warfare, in action. They conform to the trend evident in the majority of examples cited in support of manoeuvre theory, in that most of these examples are of actions that take place in the offence. Manoeuvre theory emphasises the need to retain the initiative through maintaining a degree of tempo superior to the enemy.

While this implies an offensive approach to operations, the suggestion that a force employing manoeuvre theory would not have to adopt the defensive at any stage seems a remote prospect at best. Apparently, the impact of manoeuvre theory on defensive operations is easily overlooked. The German Blitzkrieg that was successful in Yugoslavia was also initially successful in the invasion of Russia. However, manoeuvrists do not look to German actions on the Eastern Front for examples of a manoeuvrist approach to the defence. None of their historical examples from this front take place after mid 1943, when the Wehrmacht was on the back foot. While it is easy to attribute the German defeat to the overpowering weight of Russian numbers, manoeuvrists fail to examine any potential shortfalls in defensive doctrine.

This criticism of the use of history in support of manoeuvre theory is relevant to the theory's application at each level of war as commanders at all levels can reasonably assume that they will have to assume the defensive at some point. This weakness is also evident in manoeuvre doctrine. *MCDP 1*

Warfighting compares the offence and the defence, noting that the offence contributes striking power and is normally associated with the initiative. It concludes, “The defense, on the other hand, contributes *resisting power*, the ability to preserve and protect ourselves. The defense generally has a negative aim, that of resisting the enemy’s will [emphasis original].”²⁶⁰ This view of the defence seems both narrow and out of line with much that manoeuvre theory proposes. It appears to assume that the defence is largely reactionary. This contradicts that emphasis that Manoeuvre Warfare places on tempo, ignoring the fact that the defence can actually be used to impose one’s own will on the enemy by shaping them into attacking into our strengths and through retaining the initiative. Through the use of deception, the manoeuvrist could also use the defence to ensure that the observation and orientation aspects of the enemy’s OODA loop are left wanting. The lack of regard shown by manoeuvrists in their doctrine and use of history could well prove a key weakness in manoeuvre theory.

These examples also reveal the trend towards the use of operational level historical examples to support manoeuvre theory. The blanket acceptance of manoeuvre theory across all three levels of war is not backed up by weight of example. Actions are often portrayed as fitting the manoeuvrist paradigm at the operational level, while their tactical details are referred to only in passing. The examples tend to focus on one level only, and lack the depth of investigation as to the implications of employing manoeuvrist style warfighting simultaneously at two, let alone all three levels.

MANOEUVRE WARFARE AT THE TACTICAL LEVEL OF WAR

Tempo

Boyd's theory of the OODA loop provides manoeuvre theory with a blueprint for looking at tempo in ground combat. However, the argument that it is relevant to ground combat at all is weak. Boyd found that a number of battles mirrored his OODA loop theory as one side had presented the other with a *sudden* and unexpected change or series of changes that the other side could not effectively deal with.²⁶¹ This is very different to the example of air combat between the F-86 and MiG-15 that Boyd used to formulate his theory. The F-86's dominance was a function of its bubble canopy and hydraulic controls, which allowed its pilot to observe and orient faster than the MiG-15's pilot. This allowed the F-86's pilot to slowly build up an advantage over his opponent, who was forced to employ his aircraft's superior performance characteristics reactively. Had the F-86 been forced to apply its advantages at one single time, completing only a single OODA loop, they probably would not have proved decisive.

This is the fundamental difference between air and ground combat. In air combat, the combatants are able to go through many cycles of the OODA loop. This means that in air combat a small advantage can be exploited time and time again over many cycles, aggregating until it builds up to a decisive advantage. In land combat, any attempt at cycles beyond the first will be

fraught with embroilment and entanglement. Unlike an aerial dogfight, land and airland warfare tends to last long enough for the enemy to react and readjust so that the next attempt is not as advantageous as the first. In a situation where one side has only a marginal superiority in its ability to observe, orient, decide, or act, it must go through the OODA loop many times before it can achieve a decisive advantage. This is not possible in ground combat. What is possible in ground combat is the ability to mass advantages together at one point in time to achieve a brief period of overwhelming superiority.²⁶² In the words of US Army Lieutenant Colonel Mark Hamilton, “for land warfare, many units once – not one unit many times.”²⁶³ Thus, while air combat might allow the two combatants to go through many cycles, slowly building on small advantages, this is not the case on the ground. Ground combat is more akin to opponents going through a single ‘OODA sequence’ (as opposed to OODA loop) or small number of cycles before achieving a decision. To be successful, one needs a large advantage, as the opportunities to exploit that advantage will be few, one cannot repeatedly build on a small advantage as is possible in air combat.

Ground and air combat also differ in the environment in which they are conducted. Hamilton notes that air to air combat is essentially few-on-few in a three-dimensional environment. The combatants enjoy uniform trafficability across their zone of operations, and disengagement without damage is an option. He contrasts this with ground combat which “is really only two dimensional even with air whose ordinance is dropped to support two dimensional maneuver or positioning. Trafficability confines and compounds, slows or denies total freedom of action. Battle tends to be longer

than air-to-air; within battles, movements are continuous rather than cyclical; and disengagement once battle is joined (even at the reconnaissance level) is very difficult without some damage and expenditure of ammunition.”²⁶⁴ The relevance of Boyd’s OODA loop to the tactical level of war can be questioned at its most basic assumption, that it is relevant to ground combat at all.

Even if we grant the Boyd cycle relevance to ground combat, there are serious questions as to its appropriateness to all situations at the tactical level of war. In his article *When Maneuver Fails* Lieutenant Colonel Gary Anderson, USMC, notes that the OODA loop is only relevant in a conflict if the opponent has a decisionmaking cycle that is able to be disrupted.²⁶⁵ In an earlier article Anderson discussed the Soviet approach to Afghanistan, where the Soviets “launched numerous combined arms campaigns designed to paralyze the command, control, and communications of the Afghan resistance, but the Afghans simply don’t have a system that is susceptible to conventional-type attack.”²⁶⁶ In a counterinsurgency situation, where the enemy operates in small groups with little in the way of central coordination, they may not have a decisionmaking cycle at all above this small unit level.

This characterised the Malayan Races’ Liberation Army (MRLA) during the Malayan emergency. The MRLA had massive communications problems, as they relied on crude methods such as couriers and prearranged jungle meetings. According to Donald Hamilton this meant that “separate MLRA units could never coordinate and maneuver in a fluid manner under a centralized command.”²⁶⁷ This lead to a demise in their ability to conduct guerrilla operations while boosting indiscriminate terrorism.²⁶⁸ While still

working towards the aims of the Malayan Communist Party, there was no decision cycle co-ordinating the MLRA's actions at the tactical level.

Developments in the nature of insurgency around the world make this an even greater concern. Dr. Steven Metz, a research professor at the US Army War College's Strategic Studies Institute, believes that the very nature of insurgency is changing with the strategic environment. During the Cold War, the predominant form of insurgency followed the pattern of a Maoist "people's war" which sought the transformation of political and economic systems through political and guerrilla warfare followed, if necessary, by conventional military action. Metz believes that while the goals of future insurgents may echo those of their Cold War predecessors, the means they employ to achieve those goals will change. He believes that future insurgents at the tactical level will largely operate through terrorism in urban environments as opposed to rural guerrilla warfare.²⁶⁹ Terrorists cannot operate in the large groups more common in guerrilla warfare, they operate by blending in with the local population and strictly avoiding contact with counterinsurgency and policing forces. This means that terrorists do not actively come into direct conflict with counterinsurgency forces, making Boyd's OODA loop entirely inappropriate to the combating of modern insurgents.

The only relevance for the OODA loop would be the combat situation that would occur when those small groups came into contact with patrolling forces. This lead Anderson to conclude that the OODA loop is less relevant at the battalion level and above in a low intensity conflict.²⁷⁰ Hamilton sees a link here at the small unit level between the air combat example and ground

combat. In the aerial dogfights that inspired the theory, the F-86 set up its opponent through the use of a relatively finite choreography that was made up of many iterations of rehearsed movements. Hamilton concludes from this “In Army terminology, we are talking about what amount to battle drill movements, or what are recently being called “techniques.” The utility of this metaphor in its iterative sense is at the level of battle drill.”²⁷¹ If the OODA loop is relevant to ground combat at the tactical level, it is only relevant in the sense of the battle drill. In a low intensity conflict situation, this will see Boyd’s relevance limited to small unit combat only.

Mission tactics has both pros and cons at the tactical level. At the lowest levels of war, friction dominates everything. The means of command and control are few and fragile. Decentralised command reduces reliance on fragile command and control systems, allowing subordinates to operate more effectively within the clutches of friction. Opportunities at the tactical level are fleeting; they might only be seen by one person or unit, who realises that they cannot afford to wait for sanction from up high before exploiting them. Decentralisation allows the maintenance of necessary tempo in such situations. However, in reducing friction at the lower levels, decentralisation may create it higher up the chain of command. If subordinates find that they have to adopt a changed course of action, and are unable to communicate this to their higher headquarters, then this must create confusion in those higher headquarters when commanders reactions to new situations are based on incorrect assumptions as to their subordinates’ activities. It seems that decentralisation is a double-edged sword. While it ensures that tempo can be

maintained at lower levels when communications fail, it could slow tempo higher up the chain of command.

In decentralising decisionmaking to the lower levels and allowing subordinates to act on their initiative, commanders risk their subordinates making incorrect decisions because of a limited situational awareness. If a platoon commander finds that he is in a situation to make a decision that will affect an entire battalion, he must ensure that his decision is based on more than his immediate situation, which may not accurately reflect the 'big picture.' This has implications for the reconnaissance pull style of warfare that manoeuvrists believe decentralisation enables. Anderson claims that the use of reconnaissance pull tactics has brought its users just as many defeats as it has victories. He believes that "Reconnaissance pull can be a brilliant exploitation or a disastrous ambush."²⁷² This is essentially what happened to the Russian 2nd Army at the Battle of Tannenberg in August 1914. Its units reported that there were only weak German forces to their front, but they missed the strong forces on their flanks until they were too late to effectively react to them, resulting in the bulk of the Army being encircled and destroyed. Commanders have to be aware that although the path ahead of them may seem easy, they might be being lured into a trap.

If command is decentralised, and reconnaissance pull tactics are employed, junior commanders will require the resources to properly exploit opportunities. If these are not immediately available, then they must be able to call on those resources, making communications critical. Commanders at the junior NCO and officer levels must be highly competent if they are to effectively utilise these resources.

The exploitation of fleeting opportunities is facilitated by manoeuvre theory's approach to intelligence. In allowing intelligence to flow laterally through a force, or to be disseminated before it has been completely analysed, commanders are given the opportunity to take advantage of short-lived opportunities. Such opportunities may not last for the length of time required to pass the information up a chain of command, process the information, and disseminate it. The practice of forward command as a means of shortening the time necessary for a commander to 'observe' is especially relevant at the tactical level. It is at this level that intelligence is gained by the simplest means, often the 'eyeball Mark 1.' If a commander can see a situation for himself, he will not need to wait for information on that situation to be passed to him. Forward command allows tactical-level commanders a simple means of abbreviating their decisionmaking cycles.

Air and ground combat are fundamentally different. Combatants in aerial dogfights are able to go through many cycles of the OODA loop, incrementally building small advantages into decisive advantages. In ground combat, the participants are most likely able to complete only one cycle as movements are continuous, not cyclical, and thus have to have a considerable advantage that they can exploit decisively. Boyd's theory of the OODA loop may be relevant to air-to-air combat between aircraft, but the significant differences between air and ground combat leave his theory's applicability to land warfare in serious doubt. In ground combat, the OODA loop metaphor is applicable to the battle drill. This means that while it is relevant to the tactical level of war, it is not universally relevant. In counterinsurgency operations, the enemy may lack a disruptable decisionmaking cycle (all the more likely

given the trend towards terrorism-based insurgency), ensuring that the OODA loop relates only to those units likely to be called on to carry out battle drills. In such situations, the Boyd cycle is relevant to small unit combat only.

Decentralisation may ensure that tempo is maintained at lower levels, but may cause tempo to slow higher up the chain of command when communications fail, as commanders try to react to situations with units that are not doing as they had expected. Allowing subordinates to act on their initiative, an approach especially relevant to reconnaissance pull tactics, may well ensure failure just as often as it does victory. Subordinates have to balance the potential gains of exploiting an opportunity that only they can see with the potential losses that would occur if what they saw did not accurately reflect the whole situation. The use of reconnaissance pull tactics can all too easily result in commanders leading their forces into a trap. Fortunately, this is balanced to a degree by manoeuvre theory's approach to intelligence, which ensures that commanders have to wait as little as possible for information on their situation.

Mission Tactics

At the tactical level there is a conflict between the use of mission tactics and the goal of simultaneity. Simultaneity occurs when the enemy experiences the outcomes of a number of actions at the same time, overloading his decisionmaking capability and thus slowing his tempo. The use of the reconnaissance pull technique in an attack is an example of

simultaneity, but simultaneity can be more than attacking the enemy at a number of points on a map. The combination of electronic warfare and psyops during an attack serves as one possible example. The dilemma occurs in that simultaneity requires the careful coordination of the timing of the desired effects, implying careful stage management.

However, in the words of Michael Codner, Assistant Director (Military Sciences) RUSI, the use of mission tactics “implies freedom of action for subordinate commanders towards a given mission and, in particular, the freedom to exploit success and to be unconstrained by timelines.”²⁷³ Codner is not advocating the complete elimination of timelines as control measures. Some situations will undoubtedly require the capture of some significant objective before other actions can take place. What he is advocating is a reconsideration of the use of control measures to limit units’ advances in the attack (“Alpha Company is not to cross report line Zulu until 1700 hours”). While such use of timelines may aid on the synchronisation of units in an advance, it might also limit those units’ ability to exploit opportunities that require them to cross those timelines early.

What commanders must realise is that although mission tactics shies away from the details of subordinate execution, it still utilises control measures, but only to the degree necessary to ensure the coordination of subordinate’s actions. Mission tactics seeks a centralised vision and decentralised execution. While a commander’s plan might call for simultaneity, and thus provide the necessary detail for its execution, the subordinate may find that the situation has changed to the degree that the original approach is no longer appropriate. Mission tactics allow them to react

as the situation dictates, without being bound to an inappropriate plan. This means that as the battle progresses, simultaneity will become an increasingly difficult goal to achieve. This does not stop commanders from attempting to use it at the beginning.

Units have to be familiar with mission tactics if they are to employ them effectively. It takes time and practice to get used to this approach to warfighting. This will not happen if the team constantly changes. Major Eric Walters, USMC, wrote, “Only through unit cohesion can there be the long-sought-after “Nelson’s touch” – implicit communications.”²⁷⁴ In truth, the Nelson touch was very far from being an implicit communication. Nelson habitually gathered his captains for conferences repeatedly before battle to ensure that they understood his plans. This ensured that they could act on their initiative with full confidence that they were achieving their commander’s intent. This serves to strengthen the first part of Walters’ statement, in that these conferences strengthened the cohesion between Nelson and his subordinates, providing the time and practice necessary to allow him to effectively employ mission tactics. Units that lack this cohesion, through insufficient training or high turnover of personnel, may find that they cannot effectively employ mission tactics.

One criticism of mission tactics is that it places too much responsibility on junior commanders with little experience. A captain who has only been commissioned for five years may lack the knowledge of his force necessary to act appropriately within his commander’s intent, the same can be said of newly commissioned platoon commanders. The best solution to this is to train commanders at least ‘one level up.’ That is, lieutenants should be

trained to be captains, captains as majors, and so on. This would allow them a better understanding of what their superior is trying to do in a situation, and ensures that newly promoted commanders are familiar with their new role and responsibility.

Hans von Seeckt's rebuilding of the Reichswehr under the restrictions of the Treaty of Versailles provides a historical example of this in action. With German forces limited to 100,000 troops, Seeckt prepared the Reichswehr for expansion by ensuring that all soldiers were trained to perform the duties of their superiors. Privates were trained as NCOs and NCOs as officers.²⁷⁵ To aid in achieving this leadership positions were rotated during exercises. NCOs rotated through the platoon commander position, and privates acted as squad leaders.²⁷⁶ Von Seeckt ensured that senior NCOs were included in staff rides and conferences summarising exercises.²⁷⁷ This would ensure that commanders had the experience necessary to effectively employ the blitzkrieg techniques that contributed to the development of manoeuvre theory.

The use of mission type orders may 'free up' a commander by reducing the number of tasks he has to plan for, but this does mean that he will be able to sit back while his subordinates do all the work. In yielding the authority to dictate the details of subordinate execution to the subordinates themselves, commanders have to ensure that they are sufficiently responsive to subordinate requirements for those subordinates to exploit opportunities. There is no point in allocating tasks if one fails to allocate the necessary means to accomplish those tasks.

The use of commander's intent is an 'enabling factor' for subordinate initiative. In war, few situations can be predicted for a considerable period of

time with any degree of accuracy. This is especially obvious at the tactical level. While a situation may change to the degree that the original means of achieving the commander's intent has become inappropriate, his intent provides subordinates with a constant goal that they can work towards, it gives direction to their initiative. For example, a unit may be tasked with the destruction of an enemy observation post, in order to deny the enemy observation of a certain area. If the unit discovers that the observation post is no longer in place, they might choose to search for other such positions, or patrol the area, as opposed to simply returning to base or resting because the post they were sent to destroy was no longer there. In this way, commander's intent ensures that when subordinates act on their initiative, they do so in a way that will benefit more than their own command.

The process of mission analysis is an essential tool that subordinates must employ when operating with mission type orders. By going through the process of mission analysis, subordinates come to understand the relationships between the enemy's vulnerabilities, their own commander's intent, and the tasks, both specified and implied, that they will have to complete in the course of their mission. The use of mission analysis ensures that they have considered those tasks that, although not specified in their mission, they may be called on to carry out, and ensures that if they do deviate from their planned approach, the deviation will work towards achieving their commander's intent. The process of mission analysis ensures that subordinates have an accurate understanding of the mission they have been given, and results in the creation of the mission that they will give to their subordinates.

The use of mission tactics counteracts the use of simultaneity to a certain degree. While simultaneity may be planned for and achieved in the initial stages of a battle, commanders who attempt to employ it must acknowledge that it will become increasingly difficult to achieve as the battle progresses. Mission tactics require commanders who are responsive to the needs of their subordinates. There is little point in allocating a mission without allocating any resources that may be essential to the success of that mission. At the tactical level, commander's intent is an essential 'guiding force' for subordinates. It allows subordinates to act on their initiative in ways that will benefit the commander when the situation develops in ways that the commander did not predict. It allows the commander to have confidence that his subordinates are working towards achieving his goals when conditions conspire against him. Subordinates can aid themselves in this through the process of mission analysis. This process allows them to better prepare themselves to deal with the unanticipated situations that arise in combat.

Main Effort

Manoeuvre theory calls for commanders to attack the enemy's centre of gravity, his critical vulnerability that, if exploited, will bring about his defeat. At the tactical level, such luxuries are rare. *MCDP 1 Warfighting* admits that "most enemy systems will not have a single center of gravity on which everything else depends, or if they do, that center of gravity will be well protected."²⁷⁸ Intangible centres of gravity at the tactical level will rarely

be obvious. At the strategic and operational levels, centres of gravity are more likely to be permanent or long lasting vulnerabilities, as the situation at these levels takes longer to change. This is not so at the tactical level where the situation may change in an instant. At the tactical level, the capability that the enemy cannot function without is most often his most obvious source of combat power, a physical force in being. *MCWP 0-1* admits, “At the tactical level, the center of gravity is normally an enemy unit.”²⁷⁹ At best, a tactical level commander constrained by lack of time and information will be able to grope for some exposed vulnerability that he will be able to exploit. He will not have the ability to assess each situation that arises to the extent necessary to identify a centre of gravity, if indeed one exists.

Like nearly every other warfighting doctrine besides those employed to disastrous effect during the battles of the First World War, Manoeuvre Warfare calls for commanders to reinforce success, not failure. This is especially pertinent to manoeuvre theory in terms of changing the Main Effort. If the Main Effort becomes ‘bogged down’, manoeuvre theory dictates that the commander should change the Main Effort to a unit that offers a greater chance of victory, a unit that is succeeding, not failing like the bogged down one. In his article *Tactics in Maneuver Warfare* Lind offers an example of this in action. He poses the hypothetical situation of a regiment attacking with two battalions forward, and one in reserve. Reconnaissance has shown the enemy to be weak in front of 1st Battalion, and strong in front of 2nd Battalion, so 1st Battalion is designated the Main Effort (in accordance with surfaces and gaps theory). 1st Battalion is given all supporting arms, and the reserve battalion is echeloned behind it. During the attack, 1st Battalion runs

into an ambush, but 2nd Battalion's attack, intended as a feint, has taken the enemy by surprise and broken through. The regimental commander then changes his Main Effort to 2nd Battalion, the supporting arms switching their fires to support the new Main Effort, and the reserve battalion moving laterally to echelon behind 2nd Battalion.²⁸⁰

While this may be the best approach to take in terms of defeating the enemy, it requires the commander to make a difficult decision. Not only must he not support a unit caught in an ambush, he must take away from it all the external support it had originally been able to call on. While this action does serve the higher goal of achieving a military decision, it requires an action that would seem bitterly distasteful to the public opinion-driven governments of many western democracies. This would be a difficult decision for any commander mindful of the so-called 'CNN effect' to make. In the eyes of the media, the commander's victory could all too easily be overshadowed by the demise of many of those who he had to leave to fend for themselves in an ambush. In nations that are becoming increasingly intolerant of casualties, the 'reinforce success not failure' approach will be a bitter pill to swallow. In nations whose strategic will can be directly influenced by tactical casualties, even tactical victory could lead to strategic defeat.

This approach to warfighting has had considerable influence on force structure at the tactical level. Lieutenant Colonel R. H. Voigt, USMC, argues that "the idea of rebounding from a presumed weak point, which turns out to be not so weak, then pursuing another presumed enemy vulnerability, fails to appreciate the difficulty of breaking contact with strong, mobile enemy forces and the hazards of shifting units under fire."²⁸¹ The difficulty of breaking

contact under fire has led to armies that employ manoeuvre doctrine seeking means of improving the protected tactical mobility of their forces. This is most obvious in the proliferation of mounted and mechanised forces that has occurred since the development of manoeuvre theory. Armoured personnel carriers (APCs), infantry mobility vehicles (IMVs) and infantry fighting vehicles (IFVs) have become essential tools in forces that wish to break contact under fire, so that they can move to assist the new Main Effort.

Manoeuvre Warfare's emphasis on attacking the enemy's flanks and rear has also sped up the development of protected tactical mobility. Manoeuvre theory sees these areas as gaps. In modern, fluid warfare, flanks and rear areas are not as long lasting as they have proved in the positional-style warfare of the past. In modern warfare, an enemy's front, flank or rear is described as a focus of his attention. This focus can be changed to meet the demands of the situation. In order to take advantage of the opportunity to attack flank or rear areas, forces require the mobility to exploit them before the enemy can reorientate his attention. Forces that fight according to manoeuvre doctrine have turned to APCs and IFVs to provide them with the mobility they require.

The US Marine Corps' basic definition of a Main Effort in terms of a unit also has implications for the concept of reinforcing success, not failure. US Marines Corps doctrine requires that a commander change the Main Effort to a unit that offers a greater hope of success if the original Main Effort is unsuccessful. This rests on a massive assumption, the assumption that another unit offers a greater hope of success. This will not always be the case. If a commander attacks with two units, and the original Main Effort fails, the

second unit, redesignated as the Main Effort, could end up facing the same obstacles that checked its companion. The process of attacking a strong enemy position again and again conjures images of the trench-bound stalemate of the Western Front in the First World War; images of attrition. A better approach might be to consider Main Effort as an effect on the enemy, as is the case in British Army doctrine. If the Main Effort was to destroy the enemy, and this failed, the Main Effort might be changed to denying the enemy mobility, thus making it easier to positionally dislocate him. In this way, changing the Main Effort would not result in reinforcing failure.

The exploitation of gaps requires the use of initiative on the part of subordinates. If a subordinate commander identifies a gap that he knows he can exploit to decisive effect, and doing so is in line with his commander's intent, then he must take timely action. This is the often case in the unpredictable world of combat. A key weakness may be discovered by a subordinate separated by both distance and levels of command from the only leader who would normally possess the authority to exploit such an opportunity.²⁸² The exploitation of these weaknesses could see a subordinate ensure that we get inside the enemy's decision cycle, seizing the initiative from them.

While this can be decisive, it can also be disastrous. The increasing dispersion of troops on the battlefield will result in many gaps between the enemy's forces and positions. This will also result in many simultaneous attempts to exploit those gaps. A junior officer employing reconnaissance pull tactics may well think that he has uncovered the enemy's 'back door', but so too might many of his peers. This could see a commander attempting to

reinforce a successful exploitation of a gap, only to find that he has no units to reinforce that exploitation with as they have all acted on their initiative and committed themselves to attacking or penetrating other gaps that they have identified. In such a situation, the person in the best position to determine which gap is the most critical, or offers the greatest likelihood of success if exploited, must be the commander. He will be better situated to gauge the overall situation than his subordinates.

The concept of centre of gravity is relevant at the tactical level of war, but at this level it is most likely to take the form of an enemy unit as opposed to the intangible factors that might prove more influential at the higher levels of conflict. Manoeuvre theory's approach to reinforcing success, not failure, may be appropriate in high intensity conflict where the public has become conditioned to losses, but probably will not be acceptable in conflict of a lower intensity. The CNN effect will see that commanders who follow military doctrine and deny support to soldiers who offer little hope of achieving a decision are easily vilified. In the world of instant global communications, such actions may also prove to be a public relations victory for the enemy, striking directly at the strategic centre of gravity of western democratic nations, their will to fight. The need to reinforce success, not failure, has contributed to the expansion of protected tactical mobility assets in manoeuvre-oriented armies around the world. Protected tactical mobility offers commanders a greater chance of successfully rebounding from enemy strengths so that they can be employed in other areas. At the tactical level, the US Marine Corps' definition of Main Effort in terms of a friendly unit, as opposed to an effect on the enemy, may also lead to the reinforcing of failure.

Viewing Main Effort as an effect to be inflicted on the enemy allows commanders to do more than pumping units into an enemy position in an attempt to destroy it. It allows them to look at other options, such as denying the enemy mobility, or dislocating them and thus making them irrelevant to the situation.

Will to Fight

The primary means of defeating the enemy's will to fight in Manoeuvre Warfare is through tempo. Boyd's theory of the OODA loop explained that in a conflict between two parties, as the faster party repeatedly completes OODA loops faster than his opponent "Often he [the slower party] suffers mental breakdown in the form of panic or passivity and is defeated before he is destroyed physically."²⁸³ However, as shown earlier, the OODA loop does not cycle repeatedly in ground combat. On the ground, it is difficult to build on small advantages until they become significant enough to defeat the enemy's will to fight.

A better means of understanding how the enemy's will can be targeted at the tactical level is by looking at it as a potential critical vulnerability. After all, if we can target the enemy's will to fight directly, then we can achieve decisive results. Thus the enemy's will becomes a centre of gravity. The possibility that the enemy's will may be a centre of gravity that can be exploited must be considered on a case by case basis. One must ask oneself if the enemy's will is a vulnerability that can be exploited. This is quite different

to manoeuvre theory's goal of seeking to destroy the enemy's will in all situations.

Recognising that the enemy's will is a centre of gravity is a more realistic approach to warfighting at the tactical level. This approach admits that while the enemy's will is a centre of gravity, it may be easier to exploit in some enemies over others. Convincing an enemy that he is beaten can prove difficult, if not impossible, when that enemy is the product of a society whose cultural and philosophical values emphasise strength of will. Major I. N. A. Thomas, of British Army, offers the example of the American attack on Okinawa during World War Two, where "over 100,000 Japanese soldiers and civilians died; a number actually preferred suicide to capture, in the tradition of Bushido. Only 7000 Japanese were taken prisoner, the majority of these being wounded."²⁸⁴ The Battles of Stalingrad, Tobruk, Khe Sahn and Chosin all offer examples of a professional and determined enemy continuing to fight on despite a horrendous logistics and command and control system.²⁸⁵ Clearly, in these situations, the enemy's will was difficult to target.

In modern counterinsurgency, will to fight can be an enemy strength. Given that manoeuvre theory calls for commanders to target enemy weaknesses and avoid their strengths, in some situations targeting the enemy's will could prove to be contrary to manoeuvre doctrine. In combating the Maoist "people's wars" that characterised the Cold War, governments could build legitimacy through offering a better deal than the insurgents offer. Metz believes that in modern conflicts where religious, ethnic, or racial groups seek autonomy or independence, this may prove an impossible task.²⁸⁶

This does not only apply to professional, western armies. Brigadier Robert Fry, also of the British Army, believes that a technologically unsophisticated, though doctrinally astute, enemy may be willing to accept disproportionate casualties in return for the infliction of limited, though campaign decisive, losses on a CCN effect-prone western military nation. He poses the obvious example of the US intervention in Somalia, Operation Restore Hope, where the loss of 30 men was enough to exploit the American centre of gravity of public opinion, and bring about an early withdrawal.²⁸⁷ Fry concludes “others – both state and non-state actors – have advantages in terms of social, racial or religious cohesion that we do not enjoy and which makes them less susceptible to our manoeuvre than we will be to theirs.”²⁸⁸ Clearly, there will be some situations where it is inappropriate to attempt to target the enemy’s will to fight.

This does not preclude the targeting of the enemy’s will to fight at the tactical level in all situations. There will be occasions when this is a viable option. Lind offers the example of Israeli tactics against Arab fortified positions in the 1950s. Israeli attacks were often frontal, with the aim of entering the Arab trench-works to engage in hand-to-hand combat. The Israelis had identified a weakness that allowed them to target their enemy’s will. The Arabs’ lack of social cohesion outside of the family unit reduced the unity of their forces. The Arab soldier “had no reason to expect support from those around him. When faced with a melee in the trenches, the Arabs’ cohesion came apart as each soldier looked out only for himself.”²⁸⁹ In this scenario, the Arabian soldiers’ will was a vulnerability that could be exploited.

At the tactical level, the enemy's will to fight must be regarded as a potential centre of gravity. This approach recognises that will to fight is not a universal goal that commanders have to attempt to exploit in all situations. Such an approach would be foolish, as it may not be applicable to all situations commanders will face in combat. In some enemies, such as the Japanese soldiers of the Second World War, will to fight might be a strength. In such a situation, targeting their will would violate the manoeuvrist principle of surfaces and gaps, and that it would see our strength pitted against the enemy's. The enemy's will to fight must be considered on a case by case basis. History has shown that there are some situations where attacking it is clearly inappropriate.

Dislocation and Disruption

At the tactical level of war, positional dislocation is only of use if it achieves decisive results. Removing the decisive point from the enemy by bypassing their positions is risky business. If this does not achieve a decision, you still have a capable enemy to deal with, potentially a capable enemy in your flank or rear. The Battle of Tannenberg in August 1914 offers an excellent example. The German 8th Army, lead by Hindenburg and Ludendorff, utilised rail transport to rapidly move their force from in front of the slowly advancing Russian 1st Army to a position surrounding the Russian 2nd Army, which threatened to advance into 8th Army's rear. The need to achieve a decision over the 2nd Army was crucial, as the longer the Battle

took, the more 1st Army, lead by General Rennenkampf, threatened the German rear. In his memoirs, Ludendorff recalled the fear he felt during the Battle, which began on the 27th of August, and in contrast to previous wars, was not finished in one day but continued until the 30th. Ludendorff wrote, “Rennenkampf’s formidable host hung like a threatening thunder-cloud to the north-east. He need only have closed with us and we should have been beaten.”²⁹⁰ While positional dislocation may be the only option for a force that has to fight a numerically superior enemy, commanders must be aware that they risk leading their force into a trap.

Disruption can be achieved at the tactical level, and is most appropriate to offensive operations. *MCWP 0-1 Marine Corps Operations* encourages commanders to focus their combat power against the enemy with a tempo and intensity that the enemy cannot match when they attack. They must then exploit their success by continuing the attack deep into the enemy’s defence, disrupting his cohesion.²⁹¹ It is in the exploitation phase that commanders can achieve the most disruption in the enemy’s system. The exploitation phase extends the initial success by preventing the enemy from disengaging and reorganising. Keeping the enemy on his back foot, commanders can target command posts, reserves, or combat service support units deep in the enemy’s rear. *MCWP 0-1* notes “The destruction or defeat of these objectives further disrupt and disorganize the enemy, preventing reconstitution of the defense or the enemy’s force.”²⁹²

In Operation Desert Storm, 2nd Marine Division used the Army’s Tiger Brigade as an exploitation force in the Division’s final attack. This brigade was superior to the Iraqis in terms of speed, firepower, and night

combat capability. This allowed Tiger Brigade to penetrate deep into the rear of the Iraqi III Corps, sealing off the vital highway intersections north of Al Jahra and disrupting the Iraqi's organised defence. Thus, disruption becomes a goal for deep operations, as the targets that will bring about the most disruption to the enemy's system lie in the area of deep battle.

Tactical disruption is not restricted to deep battle alone, and can also be achieved through seeking an advantage of asymmetry. Asymmetry is a form of surfaces and gaps, in that we seek to create an imbalance, applying our strength against an enemy weakness. *MCWP 0-1* offers the example of using armour against slow-moving artillery, or attack helicopters against enemy armour. The greater speed of the tanks and helicopters gives them an advantage over their prey.²⁹³ Their superior tempo allows them to disrupt the enemy's cohesion through the confusion they create in the enemy.

Commanders must realise that tactical disruption alone is not decisive. While the cohesion of an enemy force may have been destroyed, the components of that force may continue to fight. In his book *China Dragons*, John Hill, a company commander with the 2nd Berkshires during the Second World War described the need to continue the fight against the Japanese, despite their apparently being defeated. He wrote, "It was quite apparent that the enemy was in disarray, yet at every engagement the need to eliminate them never weakened. Never once were we offered any sign of the wish to surrender. Even the ones at Kaibang resisted, firing upon us to the very end. They remained a dangerous enemy, fully able to inflict casualties if we were careless or less than alert."²⁹⁴ Disrupting the enemy may make them easy to

destroy, in that they can be targeted in smaller groups, but it is far from decisive on its own.

Disruption may also have the disadvantage of creating a certain degree of friction. Michael Codner suggested: "However coherent and successful one's own forces are, if the enemy loses coherence and his decision-making processes are disrupted, it becomes more difficult to control the longer term consequences of an engagement. For example, who do I parley with to bring about a cease-fire."²⁹⁵ Codner's example of the cease-fire illustrates well the dangers involved in breaking down an enemy's cohesion. While the leader of a disrupted enemy force might agree to end hostilities, there is little or no guarantee that his subordinate units can be trusted to honour such a deal. Our destruction of their command and control system may well have inhibited their commander's ability to communicate this to them. The effects of disruption are such that we can no longer make accurate predictions about the enemy as a whole, he must be considered in terms of each individual packet of force that remains.

Positional dislocation is a dangerous exercise, in employing it commanders risk being trapped between two enemy forces. Disruption of the enemy can be accomplished at the tactical level; it is especially relevant to the exploitation phase that follows a successful attack, as elements that contribute directly to the enemy's cohesion are at their most vulnerable at this point. That said, commanders must realise that disruption alone is not decisive at the tactical level. A disrupted enemy may continue to fight as the individual units that make up the disrupted enemy force. As the Allies found when fighting the Japanese in the Second World War, a disrupted enemy is still a dangerous

enemy. Through its creation of confusion and destruction of unity in the enemy force, disruption adds to the friction that embroils military leaders in combat.

The Initiative

The initiative, described in terms of Boyd's OODA loop, is completing a loop faster than the enemy does. This forces the enemy to react to the 'act' phase of your OODA loop before they have had a chance to implement their own. In ground combat, units go through fewer OODA loops than combatants in the air. This means that they have less of an opportunity to influence the battle. With opportunities limited, possession of the initiative is a must given the few chances combatants will have to influence the situation.

Tactical commanders must try to anticipate as best they can any potential future developments in the course of the battle. While accurate predictions will always be an impossible goal, an understanding of the developing situation and its possible effects can provide a marked advantage. Lack of intelligence, pressing situations in the present, and unpredictable enemies combine to form friction, obstructing commanders in their attempts to seek future courses of action. However, in the words of *FMFM 6 Ground Combat Operations*, "The commander who fights only in the present will invariably be reacting to the enemy and fighting in accordance with the enemy's will."²⁹⁶ If a commander finds that the enemy has the initiative and is constantly ahead in their OODA loop, then thinking ahead may be a

commander's only way of regaining the initiative. He may find that he is in a position to take a risk and act so as to take advantage of a potential development that he has foreseen. Only through thinking ahead can commanders shape the situation to their will, and ensure that they will act faster, and continue to act faster, than the enemy.

Retention of the initiative at the tactical level is heavily reliant on agility. Agility allows friendly forces to act faster than the enemy, making it a necessity for retaining the initiative. *FM 100-5* sees superior agility as an enabling factor in concentrating strength against weakness and retaining the initiative. This is because "Forces may need to concentrate repeatedly so that by the time the enemy reacts to one action, another has taken its place, disrupting the enemy's plans, and leading to late, uncoordinated and piecemeal responses."²⁹⁷ It is through this process of successively concentrating against locally weaker enemy forces that smaller forces can defeat numerically superior enemy forces.

Speed in movement is a crucial aspect of agility. The advantage of superior speed can be exploited to gain the initiative over the enemy, as a force moving at speed reduces the time that the enemy has to prepare for its attack. Major General Hermann Balck, regarded by von Mellenthin as Germany's greatest field commander of the Second World War, was all too aware of the dangers of speed. In an interview with William S. Lind, when asked whether the Russian tanks he had faced ever used terrain in their attacks against him, "He replied that they had used terrain on occasion, but that they more often used speed. The questioner followed up: "Which was harder to defend against?" Balck answered, "Speed."²⁹⁸ Speed in movement is

dangerous because it allows us, when we are going through or around the enemy, to change the situation faster than he can react, and once we get past the enemy, it can make his reaction irrelevant.²⁹⁹ Speed is a useful tool in retaining the initiative at the tactical level.

One option easily overlooked is that of light infantry. On their own, light infantry have little in the way of speed, apparently leaving them with little value in the struggle to seize the initiative. To stop the analysis of light infantry at this point would be to commit a grave error. Light infantry has the advantage of being able to operate in almost any terrain or weather. They are also very easy to deploy rapidly. Light infantry's tactical mobility can be advanced through the use of helicopter support or tactical airlift. *FM 100-5* notes "they can wrest the initiative early, seize and hold ground, and mass fires to stop the enemy in restrictive terrain."³⁰⁰ Employed in this way, the arm most lacking in organic speed can unexpectedly seize the initiative with little or no warning.

At the tactical level, the employment of a reserve is another means of seizing and retaining the initiative. When an advance begins to show signs of reaching its culminating point and starts to slow, the reserve can be employed to increase momentum. When an advance speeds up, the reserve can be used to transform the enemy's retreat into a rout. *MCDP 1-3 Tactics* proposes that it can also be used to expand or exploit gaps or penetrations or "to attack in a different direction, thus exploiting opportunities for success instead of reinforcing failure."³⁰¹ The reserve is an important tool in the tactical commander's quest for the initiative.

The need to seize and retain the initiative influences how we train and prepare our tactical level commanders. Commanders at this level will be faced by the complications of friction at every step. Often, they will have little information on an enemy concealed by weather, vegetation, and terrain. In order to seize and retain the initiative, commanders will have to make decisions with little information to base their decisions on. In such situations, the timid will fail. Those who having gained initial success choose consolidation over exploitation risk ceding the initiative to their foe. Tactical commanders have to be bold, and be prepared to take calculated risks.

Possession of the initiative at the tactical level of war is essential. At this level, units in combat go through only a few OODA loops at the most, and so their opportunity to influence the situation is limited. Commanders must make the best use of the limited opportunities they have, and must try to look through the fog of war and anticipate the future course of events. If they do not, they will be trapped in the present situation, and risk finding themselves reacting to the enemy, instead of forcing the enemy to react. Retention of the initiative at the tactical level relies on agility, which can be aided to a great extent by an advantage in speed of movement. Commanders have to be aware of how they can utilise the forces at their disposal to seize and retain the initiative, and must be encouraged to demonstrate boldness and the willingness to take calculated risks in situations where the timid flounder.

Creating a Dilemma

The combined arms approach to creating a dilemma is especially relevant at the tactical level, as commanders have a wide range of weapons that they can employ, each with different effects. The choices open to the tactical commander in terms of weapons systems makes the creation of task-specific combined arms forces much easier than at higher levels. The various natures of weapons effects makes combined arms tactics relevant from the combination of armour and air assets at brigade or divisional level, right down to the use of rifles and grenades together by individual soldiers against an enemy in a fighting pit. In terms of creating a dilemma, combined arms is extremely relevant to the tactical level.

The combined arms offers tactical level commanders with a means of working more effectively under the constraints of friction. When there is little information on the enemy, the employment of individual combat arms on their own risks their coming up against an enemy that they are ill suited to fight. In operations such as a reconnaissance in force, which are intended to generate intelligence, commanders require a force whose combat power is sufficient to cause the enemy to react in a way that will disclose his disposition, composition and intent. The use of a combined arms task force in this role ensures that the force will be more likely to contain an element that can threaten the enemy.

Commanders can also use combined arms to maintain tempo and momentum when a force begins to reach its culminating point in an advance. If the enemy tries to break contact, allowing his infantry or armour to escape,

we can employ artillery or air assets. Not only could these be used to continue to destroy fleeing units, but they could also be targeted against the enemy's combat service support elements, thus denying him the opportunity to recover and resupply, and continuing the disruption that we have created in his force.

At the tactical level, the combined arms approach is also a means of inflicting psychological damage on the enemy. The US Army's *FM 100-5 Operations* describes the goal of combined arms as "to confuse, demoralize and destroy the enemy with the coordinated impact of combat power. The enemy cannot comprehend what is happening; the enemy commander cannot communicate his intent nor can he coordinate his actions. The sudden and devastating impact of combined arms paralyzes the enemy's response, leaving him ripe for defeat."³⁰² *MCWP 0-1 Marine Corps Operations* notes that a dilemma can disrupt the enemy's mental process as he attempts to seek a solution to his situation.³⁰³ Thus the use of combined arms slows the enemy's decisionmaking process. This could easily be exploited to gain the initiative, and possibly achieve a decision.

The wide range of weapons available to tactical level commanders ensures that the combined arms approach to creating a dilemma is relevant at this level of war. Combined arms also offers tactical commanders a means of overcoming some of the friction at this level caused by a lack of information. It allows them to create more flexible forces that are more likely to be able to react effectively to the unexpected. It allows commanders to maintain tempo in the advance, and offers them a means of slowing the enemy's decisionmaking cycle.

CONCLUSION

Manoeuvre Warfare has existed as a comprehensive theory in the US Marine Corps for over twenty years; however, its foundations sink deep into the soil of military history. Many of the individual elements that combine to form Manoeuvre Warfare have existed in the doctrine of the Wehrmacht and Prussian forces, while some can be traced as far back as Sun Tzu's writings in the Fourth Century BC.

Many factors have influenced the development of the various elements that combine to form manoeuvre theory. The delegation of authority necessary for decentralised command through mission tactics and the exploitation of initiative among subordinates were partly a product of the effects of technology on the battlefield. In the Napoleonic Wars, commanders faced a dilemma. Poor communications technology forced them to mass their troops close together if they were to command all of them personally, however, doing this made those troops more vulnerable to the effects of an increase in the volume of infantry fire brought about by rifles and machine guns. In the Prussian and First World War German armies, unwilling to accept the high casualties that continuing with close formations of troops would have brought on, commanders chose to disperse their troops, and accept the inevitable consequence of having to delegate more authority to local commanders.

The development of manoeuvre theory has also been affected by the acceptance that war takes place in an environment of confusion and chaos, Clausewitz' friction. The command environment present within a force operating under a doctrine of Manoeuvre Warfare is such that it can not only

operate better within confusion's inescapable bonds, but it can also impose a considerable amount of that confusion on the enemy.

The development of manoeuvre theory was also driven by a reaction to the firepower-focused attrition-style doctrine that failed the US in Vietnam. This reaction was magnified by the intensive media scrutiny that the US lead forces were subjected to throughout the Vietnam War. There are two ways to defeat an enemy, to destroy his physical ability to resist, or to destroy his will to resist. Driven by the reaction to the firepower-attrition approach to warfighting, Manoeuvre Warfare's aim is the latter.

Manoeuvre Warfare targets the enemy's will to resist through maintaining a tempo superior to the enemy's. Tempo finds its basis in retired Air Force Colonel and fighter pilot John Boyd's theory of the OODA loop. Boyd proposed that when two parties are in combat, they each go through successive cycles of observation, orientation, decision and action, OODA loops. If one party can consistently complete OODA loops faster than its enemy can, then it will create problems for their enemy faster than he can deal with them, often causing their enemy to give up. Thus forces fighting according to Manoeuvre Warfare seek to establish and maintain a tempo higher than that of their enemy.

Manoeuvre Warfare looks to the decentralisation of command to speed up the decision aspect of the OODA loop, and thus improve tempo through increasing the force's ability to exploit short-lived opportunities. This is tied closely to Manoeuvre Warfare's emphasis on allowing subordinates to act on their initiative. This ensures that unanticipated situations are not greeted with inaction, slowing tempo. Allowing the commander on the scene to make a

decision without having to wait for approval to come through his chain of command enables commanders to better maintain tempo while operating under the effects of Clausewitz' friction.

Manoeuvre Warfare also stresses the role that intelligence can play in the maintenance of tempo. In ground combat, intelligence has a large part to play in the observation aspect of the OODA loop, and thus sets the basis for the orientation that follows. In the tempo-critical world of Manoeuvre Warfare, commanders must be prepared to take risks without waiting for intelligence sources to provide them with absolute certainty about the enemy's actions; doing so could see short-lived opportunities missed or the initiative surrendered to the enemy. Intelligence must be passed on quickly to maintain tempo. This could see information passed not only up and down the chain of command, but also laterally between peers, or even being passed on in a raw form without being completely analysed. Manoeuvre Warfare accepts that war takes place in a medium of confusion and chaos where there can be no absolute certainties. In such an environment the role of intelligence is to provide probabilities and possibilities, leaving the commander responsible for judging when the probability is high enough for him to act.

The concept of the OODA loop is tied closely to that of the initiative. Essentially, in battle the combatant that possesses the initiative acts first, they are acting, not reacting. Possession of the initiative is being able to consistently complete OODA loops faster than one's opponent can. As the situation changes with the completion of each loop, the side that possesses the initiative has the advantage of dictating, to a degree, how the situation changes. Thus initiative is a product of tempo, and requires constant effort to

maintain a rate of tempo superior to the enemy's if it is to be retained, or it could be ceded to the enemy. The initiative is relevant to both the offence and the defence, as it implies that we are seeking to impose a design on the enemy through forcing him to react to our actions.

Another key aspect of Manoeuvre Warfare is its use of mission tactics. Mission tactics allow a commander to delegate tasks to his subordinates, while leaving the exact details of execution up to them. This reduces the number of tasks that a commander has to personally perform, freeing him a little from the bonds of Clausewitz' friction. Mission tactics relies heavily on the use of commander's intent. This gives subordinates an awareness of how their actions fit into the overall scheme by showing them how their actions can contribute to the common goal. Commander's intent also provides subordinates with a means of operating more effectively in a confused and chaotic environment, as it provides them with direction when acting on their initiative in an unanticipated situation.

Unique to US Marine Corps Manoeuvre Warfare theory is its interpretation of Main Effort as a single friendly unit. This unit is strengthened through its allocation of additional sources of combat power, which could include indirect fire support, logistics, intelligence assets, or additional troops. The designation of a unit as Main Effort is far from being an irrevocable decision. If the Main Effort is unsuccessful, through the reallocation of the additional assets given to the Main Effort to another unit, a commander is able to designate a new Main Effort. The guiding principle behind the redesignation of Main Effort in Manoeuvre Warfare is that commanders should reinforce success, not failure. Therefore, in assigning the new Main

Effort, the commander should choose a unit that is more likely to achieve success than the original when the original fails to meet expectations.

This joins Main Effort to the concept of surfaces and gaps. US Marine Corps manoeuvre theory views surfaces and gaps as a broad term that can be applied to any strength or weakness in the enemy's position or system. Their nature can be as diverse as heavily or lightly defended areas on the battlefield, the periods of time when the enemy is well or poorly equipped. If the original Main Effort finds that it has come up against an enemy surface, then in reassigning the Main Effort, the commander should look to a unit that has discovered an enemy gap, ensuring that strength is used against weakness. Surfaces and gaps must also be seen as being relative to the particular friendly force. If an enemy appears to have no gaps, then the concentration of combat power in the Main Effort can be used to achieve a relative superiority, and thus create a gap, at a given point.

Manoeuvre Warfare expands on the strength and weakness aspect of surfaces and gaps in its notion of centres of gravity. It acknowledges that while an enemy may have a number of vulnerabilities, some of those vulnerabilities will be more beneficial to exploit than others. A centre of gravity is a critical vulnerability, a vulnerability that, if exploited, can bring about decisive results. Where possible, manoeuvrists seek to use their Main Effort against a centre of gravity. While this will inevitably involve a degree of death, destruction and killing, it is the aim of this death, destruction and killing that separates Manoeuvre Warfare from attrition. Under a manoeuvrist doctrine, violence is employed against a vulnerability whose exploitation may lead to decisive results, whereas an attrition-oriented approach uses violence

to create a functional exchange ratio (relative weight of losses of men and material) that the enemy cannot sustain.

Manoeuvre Warfare seeks to force the enemy into a dilemma, a 'no win' situation. Combined arms tactics provide the means to this end. These tactics try to use two weapons or forces together in such a way that in order to avoid the effects of one, the enemy is forced to expose himself to the other. This is in contrast to supporting arms tactics, which use two weapons or forces together to achieve the same effect, without making the enemy more vulnerable to either.

Manoeuvre Warfare also makes use of the concepts of dislocation and disruption. Disruption is the breakdown of cohesion within an enemy force, which can be achieved by a number of means, including the targeting of communications assets, or even ethnic divisions. Dislocation can take two forms, positional or functional. Positional dislocation is the better known of the two, and occurs when one is able to fight an individual component of an enemy force without other components being able to come to its aid. This can occur when we attack the enemy where he is not prepared, leaving the rest of his force irrelevant, or lure part of the enemy force away from the area where we hope to achieve a decision, once again, making that part irrelevant. By contrast, functional dislocation looks at the effects that the enemy can impose on our force, and seeks ways of neutralising those strengths. As an example, this could occur when the enemy relies heavily on roads for mobility, and we attempt to achieve a decision in an area where there are few roads.

As doctrinal perspectives, the levels of war provide a form of employment context for Manoeuvre Warfare. These levels, the strategic,

operational, and tactical, link military actions at the lowest level with political goals at the highest. They must be seen in terms of the outcomes of the actions at each level, as opposed to the size of the units performing those actions.

Of the main examples of Manoeuvre Warfare, or aspects of Manoeuvre Warfare, that manoeuvrists use in support of their theories, the bulk are of actions at the operational level. These operational level examples often mention tactical details only in passing, to provide further detail of the operational actions, and rarely to support historical precedent of manoeuvre theory at the tactical level. This suggests that the acceptance of Manoeuvre Warfare as doctrine at the tactical level is hardly backed up by weight of example.

The majority of these examples also focus on the offence. This leaves a significant gap in manoeuvrists' use of history to support their doctrine. One could reasonably expect that commanders at all levels of war, not least the tactical, will find that they have to adopt the defence for a period of time. Manoeuvrists' lack of analysis of this key area could leave those employing their doctrine exposed while in this phase of war.

The suggestion that tempo, expressed in terms of the OODA loop, is appropriate at the tactical level of war can be challenged at its most basic assumption, that it is appropriate to ground combat at all. Boyd's theory of the OODA loop was based on his observations of aerial dogfights between combatants in two fighter aircraft. In such situations, both participants go through many cycles of the OODA loop, which allows one to incrementally build on a small advantage through those repeated cycles until that advantage reaches decisive proportions. This is not the case in ground combat, where

participants are only able to complete a few cycles at best. This means that in order to be decisive, any advantage that one participant has must be big, as they will not have the opportunity to build on that advantage through many cycles.

The ground combat model of the OODA loop (few cycles, not many) is most appropriate to units in combat, and thus the tactical level of war. The ambush seems an obvious example where a unit has a significant advantage (and very often a decisive advantage) but is unable to go through many repeated OODA loops. Indeed, it seems that in some situations, the OODA loop may be entirely appropriate at the tactical level, but of no use at all at the operational level. In some counterinsurgency operations, the enemy may completely lack a decisionmaking cycle at the operational level, yet still have small units in operation. Thus the only time when the OODA loop would come into play would be when those small units came into contact with friendly units, actions which take place at the tactical level.

The nature of the OODA loop in ground combat, in that it combatants only go through a few cycles, ensures that possession of the initiative is essential at the tactical level of war. When commanders are only able to go through a few loops at best, their opportunity to influence the situation will be very limited. If they cede the initiative to the enemy, or are slow to seize it from them, they risk being forced to react to the enemy's actions, and thus being shaped by their intent, throughout the entire action.

Decentralisation of command also has implications for those attempting to employ manoeuvre theory at the tactical level of war. A subordinate commander may find that his immediate situation has unfolded in

an unanticipated manner, causing him to act on his initiative according to the new situation without informing his commander of his change in actions (communications can be fragile at the best of times). If his commander then tries to use this unit in reaction to events at a higher level, only to find that the unit is far from where he had thought it to be, then tempo may slow.

Indeed, initiative and decentralised command used together in reconnaissance-pull tactics can bring about defeat as easily as they can victory. A subordinate commander will most likely have a better appreciation of his own situation than his superior, but he may lack the 'big picture.' An unexpected space between two defensive positions could be a gap that, if exploited, could lead to victory. However, that same gap may be the entrance to a trap, and the commander on the spot could lack the situational awareness necessary to differentiate between the two. This is a dangerous proposition at the tactical level of war, where the increased dispersion of soldiers on the battlefield ensures that there will be numerous physical gaps between components of an enemy force. The same is true of positional dislocation. While a gap between two enemy units may allow a commander to operate against each of them in turn, along the internal lines concept of the Schlieffen Plan's strategy of fighting both France and Russia and Napoleon's strategy of central position, it may also allow those two enemy units to crush the friendly force between them in a pincer.

The use of mission tactics is beneficial to commanders at the tactical level. While it does counteract the use of simultaneity to a degree, it has a number of advantages that more than balance this. The application of commander's intent is a useful tool at the tactical level. It ensures that when

the situation develops in ways that the commander did not predict (as is often the case given that manoeuvrists accept that war takes place in a medium of chaos and confusion) his subordinates will act on their initiative in ways that serve to achieve his intent. Intent ensures that when the fog of war obscures a commander's vision, he can have confidence in the fact that his subordinates are acting towards achieving his goals.

The concept of the centre of gravity seems of limited use at the tactical level of war. At this level, an enemy's centre of gravity will most likely take the form of a unit, not the intangible factors appropriate at higher levels. Thus Manoeuvre Warfare at the tactical level offers little hope of achieving its aim of targeting the enemy's will to fight over their ability to do so.

Manoeuvre theory's approach of reinforcing success, not failure, seems a dangerous one given the contemporary nature of war in the eyes of those nation who propose to fight according to manoeuvre theory. While it may be appropriate in a high intensity conflict where the public has become conditioned to losses, it will not be so in the low intensity conflicts, including peacekeeping, that have become the more common domain of the West's armed forces. In the information age, where satellites and the internet ensure that images and videos can be instantly beamed across the globe, reinforcing success as opposed to failure offers enemies a means of striking directly at Western nations' strategic centres of gravity, their publics' will to fight. While doctrine may justify the military reasoning behind leaving an ambushed group of soldiers to fend for themselves while reallocating resources elsewhere, the moral justification behind such a decision would be a bitter pill to swallow.

At the tactical level, this has led to an increase around the world in the use of protected mobility assets. Vehicles that offer armoured protection to infantry units increase the survivability of those units when they find that they have to rebound off an enemy surface with little support.

The very definition of Main Effort as a single friendly unit may lead to the reinforcing of failure. This definition, unique to the US Marine Corps, is quite different from the traditional view embodied in the German Schwerpunkt of the Main Effort being an enemy unit or enemy held area (the focus of effort). A Main Effort defined in terms of a single friendly unit attacking an enemy position may be changed to another unit if the original is unsuccessful. However, if the new Main Effort continues to attack that same enemy unit, then, in a way, it is having another bash at what the original failed at, it is reinforcing failure.

Will to fight at the tactical level, should not be considered a universally applicable target, but rather a potential centre of gravity that may be a weakness in some enemy forces, but not necessarily in all enemy forces. This recognises that in some forces, such as the Japanese of the Second World War, will to fight is actually a strength. Targeting the enemy's will to fight in such situations would actually violate the manoeuvrist principle of using strength against weakness.

Disruption is especially appropriate in the exploitation phase following a successful attack or breakthrough at the tactical level, as the elements that contribute directly to the enemy's cohesion (such as headquarters and communications installations) are at their most vulnerable at this point. However, disruption alone is unlikely to be decisive at the tactical level.

Again, as the Allies found when fighting the Japanese in the Second World War, the individual units that make up a force whose cohesion has been destroyed may well continue to fight on long after their force has been disrupted. Destroying an enemy's cohesion can also contribute to a friendly force's friction. It forces them to deal with an enemy force's component units individually, rather than as a whole.

The nature of the tactical level of war as being the level where forces are involved in combat makes the combined arms approach to creating a dilemma especially appropriate at this level. At this level, commanders have a wide range of weapons available to them, ensuring that they have a number of options when deciding how they can best create a dilemma for a given enemy. Through grouping those weapons systems together in combined arms teams, they also make those teams more flexible, which in turn allows manoeuvrist commanders to cope better with the friction and uncertainty that surrounds them. This can be beneficial in maintaining tempo when the unexpected occurs.

Many aspects of Manoeuvre Warfare are appropriate at the tactical level of war, however, it is not universally relevant. There are clearly situations where some aspects that make up this doctrine do not meet the needs of the tactical commander. Again, the words of Crown Prince Rupprecht of Bavaria ring true: "There is no panacea. A formula is harmful. Everything must be applied according to the situation."³⁰⁴ Commanders must not consider Manoeuvre Warfare a checklist whereby they have to use all of its elements in every situation.

ENDNOTES

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