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THE ALCHEMY OF WARFARE

Manoeuvre Warfare in Action?:

An Assessment of the Wehrmacht
Operational Warfighting Style.

Kristian J.A. Vette

2000

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ABSTRACT

This thesis examines the main offensive operations of the Wehrmacht forces during the Second World War from the perspective of modern manoeuvre warfare doctrine. It investigates the origins of both manoeuvre warfare and the Blitzkrieg style, questioning the extent to which pre-war German military doctrine advocated deep mobile strikes at enemy vulnerabilities. A model of manoeuvre warfare is developed which is then compared and contrasted with the Blitzkrieg methodologies.

It concludes that, while the Wehrmacht way of war had some similarities to modern manoeuvre theory, there is much mythology in existence today that has deified the German Forces of the Second World War as model manoeuvrists. It finds that, in fact, many of the Wehrmacht battles were fought on an attritional basis that targeted enemy strengths and not enemy vulnerabilities. The usual Wehrmacht pattern of warfighting was to attempt to encircle and annihilate the enemy fighting force. Many of its victories were dependent on a technological and firepower advantage.

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INTRODUCTION

Within the international military community, the concept of manoeuvre warfare has been enjoying an ever increasingly profile and popularity over the past decade or two. The advent of this recent popularity seems to have been prompted by two events; reevaluations of the Vietnam War, and the Israeli successes of the 1967 and 1973 wars. Today, the manoeuvre warfare concept has been incorporated into the battlefield doctrine of many western armed forces around the world.

The set of ideas or philosophies that define ‘manoeuvre warfare’ is new, but much of the current teaching emphasises the precepts employed for battlefield success by many notable warriors throughout the ages. Military commanders including Sun Tzu, Hannibal Barca, Scipio Africanus, Napoleon, Sherman, T.E. Lawrence, Guderian, Rommel, and Patton are considered as paragons of excellence in this particular approach to waging war¹.

While the nature of war has remained constant since man first assembled tribes to fight against one another, technological advancements have radically changed the way that wars are fought². The development of the internal combustion engine late last century led to the advent of mechanised and armoured warfare this century. Powered flight took conflict into the third dimension³. Although these developments are well suited to the manoeuvrist concept of war, the western front of the First World War was, for most of its duration, a static war of attrition. The two sides faced off against each other in trench lines separated by only a few hundred yards of ground. Both sides searched for a way to restore mobility to the field of battle. The British answer to this stalemate was the tank. First used *en masse* at the battle of Cambrai, on 20 November 1917, their performance limitations, coupled with the failure to exploit the ground gained, allowed the Germans to launch a counterattack initiative that recovered all their lost ground⁴. These early experiences with armoured warfare could not presage the dramatic influence that these machines would have on the way wars would be waged in the future. However, as the Allies gained experience with this new technology, more successes finally convinced the Germans late in the war that they too would need a tank

force⁵. It would not be until the next and most destructive global conflict ever that tanks would enter the arena of warfare on a scale that would influence the actual course of the war.

Ironically, the trench warfare of World War I was unexpected and unwanted by both sides⁶. It seemed to happen almost by default, largely as a result of the huge advantage bestowed upon the defender with the introduction of machine guns, rapid and accurate fire artillery, and barbed wire⁷. Generals looked for a way to get back to more open, mobile, and orthodox fighting, which they hoped would happen if they could just get through the frontal, heavily defended zones of the trenches⁸. The first idea tried was rather unsuccessful and involved massed artillery barrages for days or even weeks, followed by massed infantry assaults in sequential waves. The preparatory barrages actually worked against the allies, serving to indicate the point in the line where the assaults would aim to breach. The effect of this warning would allow the Germans time to arrange their reserves, in their 'defence in depth' format⁹. By way of contrast, the eastern and middle eastern campaigns of that same war were more open, fluid, campaigns of movement. A successful German strategic outflanking move occurred against the Russians at Riga in September 1917¹⁰, and the German 14th Army gained a significant victory against the Italians in the Eleventh Battle of Isonzo¹¹. The British also had some notable successes founded on principles that would today be considered as integral to Manoeuvre theory. The Desert Mounted Corps gained some substantial victories through their ability to out-manoeuvre the enemy. Their Australian commander, Lieutenant-General Sir Harry Chauvel, has been highly regarded, as a leader of mounted cavalry in modern times¹². Similarly, Lawrence of Arabia organised the Arab uprising and led effective deep strikes against vital Turkish strategic points from unexpected directions¹³.

Meanwhile on the western front, while the British worked with the tank, the Germans sought a tactical solution in an attempt to solve the 'riddle of the trenches'. In the Spring 1918 offensive the Germans employed 'Shock Troops' or 'Storm Troopers' to infiltrate weak points in the front line with an emphasis on avoiding encounter battle, moving quickly, and penetrating deeply into the enemy rear lines to attack command posts and disrupt supply and communication lines. These attacks were effective at a tactical level and, although the Germans surrendered in November 1918, the seeds of a new, more mobile style of fighting had been laid.

The First World War was essentially a crucible for the application of new technologies and

the development of tactics to employ and counter those new weapons. The British did continue with armoured force experimentation during the inter-war years under such proponents as Hobart, Liddell Hart, Fuller, Elles, and Martel¹⁴. They were however, probably considered as a slightly radical and eccentric group by the traditional arms of artillery and infantry, and left alone to do their own thing. Ironically, the German Panzer force developer, Heinz Guderian, who up until 1932 had never seen the inside of a real tank, credits the British with much of the early development of armoured warfare theory¹⁵. Many British and French veterans however, remembered tanks as lumbering, unreliable machines that ran out of fuel or broke down frequently, bringing an assault to a grinding halt. While the British had launched armoured warfare onto the field of human conflict, it was primarily individuals within the German forces who, during the inter-war years, worked to further develop these new technologies into effective tactical and operational applications. Unlike the British, who viewed armour as a supporting arm, the Germans created whole panzer divisions, to be used autonomously as the fist that punched out an advance. Armour and airpower, as championed by Guderian, were wielded together into joint packages capable of delivering coordinated, rapid, and deep offensive strikes to an enemy¹⁶. Airpower had its true genesis as a potent force during the Second World War and was an integral part of the Blitzkrieg formula. At the outbreak of the Second World War there was no other military force in the world that shared such a close armoured/air relationship as the Wehrmacht did. Was this to be a new style of devastatingly effective war, of 'lightning war'? Or was it alchemy; traditional warfare transformed with new technology; simply, the age-old principles of war in a new golden cloak?

Two armies, in particular, are considered to be consummate exemplars of applied manoeuvre warfare theory; the modern Israeli forces, and the German Wehrmacht (Armed Forces) of the Second World War. Much has been written on the German Army of the Third Reich, with its doctrine and operations during the Second World War being expounded as quintessential models of manoeuvre warfare. Even the modern terminology of manoeuvre warfare has taken on a German tone, with conceptual terms like *Schwerpunkt* being used interchangeably with Main Effort, and *Auftragstaktik* being substituted when discussing Mission Tactics¹⁷.

It is commonly assumed that the Wehrmacht did use manoeuvre warfare throughout their operations. It is assumed that they had well prepared operational plans, based on manoeuvrist strategy, derived from their pre-war doctrine; in essence, that they had a plan

for Blitzkrieg. This thesis will question whether that was actually what occurred. Did the Wehrmacht in fact use 'manoeuvre warfare' extensively? If they did, was it intentional, or did it just 'happen'? To answer this question 'manoeuvre warfare' must first be defined. Once it is defined, that template can then be applied to the Wehrmacht operations of World War Two. The resulting 'tightness' of the fit will then determine whether or not the Blitzkrieg operations had, within their form, a basis of manoeuvre warfare.

The Wehrmacht may have been a manoeuvrist-trained force that followed a preconceived and intended manoeuvrist strategy. However, at least two other options are possible: first, that there was no defined pre-war German 'Blitzkrieg' teaching, and that the rapid early successes of the Polish, French, North African, Balkans, and even Russian campaigns, were in fact due to the poor resistance offered by the opposition. This would imply that it was essentially 'Blitzkrieg by default', powered by the new offensive application of armoured, mechanised warfare. The second possibility is that many of the Wehrmacht operations were not, in fact, purely manoeuvrist but were based on traditional military strategies, like the Prusso-German *Kesselschlacht*, or pocket-battles of encirclement and annihilation¹⁸. It is possible also that the outcome was a combination of these factors. In essence, this work will attempt to explain, how the Wehrmacht fought, and why they fought that way. It will question whether it was planned or whether their particular style was an evolution on the battlefield? It will also assess the effectiveness of that style.

Chapter One

WAR BY ANY OTHER NAME

Manoeuvre warfare is an uncertain concept. Fundamental questions exist on the nature and presence of its elements at tactical, operational, and strategic level engagements. What defines whether an engagement, battle, operation, or war is manoeuvrist or not? Writers have variously argued, that it is just the disciplined and intelligent application of the principles of war. Some say it is descriptive, not prescriptive, that it is easier to recognise than to define¹⁹. Critics have argued that manoeuvre warfare seems to be a catch bag of anything that works, that it even produces attritional warfare when the situation requires²⁰. Yet other critics propose that it is not a theory at all because it can not be accurately and clearly defined²¹. This thesis will ask whether manoeuvre warfare is the application of new technologies to the battlefield, or whether it is a freshly revived, intelligent, and highly effective way to defeat a more powerful enemy by destroying its ability or will to fight, or perhaps even avoiding battle altogether.

Throughout the history of warfare, great successes have been attained by imaginative and unorthodox plans or initiatives²². Whether Genghis Khan at Transoxianna, the Roman Horse at Troy, Napoleon at Austerlitz, or the Wehrmacht through the Ardennes, decisive victories have often been attained by unusual and unexpected moves on the battlefield. Great generals have either been capable of devising a creative and unconventional plan or they have been able to see and exploit an unexpected opportunity through the fog of the constantly evolving battle. The French called this *coup d'oeil*, literally 'blow of the eye' or 'at a glance'.

Great defeats, on the other hand, have often occurred where a commander has taken the obtuse, often direct route to the enemy. An enemy prepared for battle from a particular direction will be best placed to deliver a devastating defeat when the threat finally materialises. While death on the battlefield was often the result of such tactics, it was often seen as a 'glorious' demise. The virtues of Victorian society were reflected in an honourable death in battle from a fair fight²³. The courage displayed by such chivalry during the

murderous Charge of the Light Brigade was replicated during the frontal assaults of the Battle of the Somme, some 60 years later. Helping to adjust the fatalities figure upward, were newer technologies by that time employed on the battlefield. During the battle of the Somme, the French alone suffered a million casualties. The glory too, seemed to disappear from the battlefield during that war.

The tragedy of the Great War seemed to stimulate such writers as Basil Liddell Hart and J.F.C. Fuller to think deeply about another way, a more intelligent, more effective, and less humanly wasteful way to fight war. Liddell Hart wrote prolifically, if tangentially, on the subject²⁴. Although his originality and credibility have been questioned recently²⁵, the contributions of his writings particularly on the Indirect Approach certainly raised the profile of this theory. In *The Strategy of Indirect Approach*²⁶, Liddell Hart reviews 280 campaigns conducted over 30 conflicts, from the Greek Wars in the fifth century B.C. up to 1914. He concludes that in all but six of those battles, an indirect approach secured success for the victors. Liddell Hart basically proposes two forms of tactical indirect approach. The first he terms 'the man in the dark' theory, which is a standard flanking manoeuvre, with one element of an attacking force engaged frontally to fix the enemy, while a second element outflanks to strike deeply. The aim of the flanking element is to strike the enemy command and control and cut supply and communication lines to the front line troops. The second form of indirect approach he terms 'the expanding torrent' and uses an analogy to water, flowing around or over surfaces (strengths) and along gaps (vulnerabilities)²⁷. Liddell Hart proposes that an attacking force strike at a weak point in a defender's front line, and then, having broken through, continue routing around enemy strengths. Continuing the momentum, it then strikes deep, at enemy vulnerabilities, such as, command and control, and supply lines, hence cutting off the resources and control of the troops at the front. This approach is very much based on the German Storm Troop infiltration or 'Hutier' tactics developed late during the First World War²⁸. The attacking troops must move rapidly, with surprise, to strike deep, all the while avoiding encounter battle, while follow-on troops clear out pockets of resistance and exploit the gains. Early infiltration style operations found that it was important for the initial gains to be secured by follow-up troops in a tactic that became known as 'rolling out the flanks' or else the advance shock troops could be cut off by the enemy strengths that had been avoided. Although Liddell Hart rewrote many of his theories with the benefit of hindsight, he did principally focus on the ideas of the indirect approach, depth on the battlefield, the psychological aspects of war, and the importance of mobility and armour.

It is now widely regarded that J.F.C. Fuller stimulated many of the ideas espoused by Liddell Hart. Following on from military thinkers like du Picq, Jomini, and Clausewitz, Fuller was perhaps the first military theorist this century to analyse war intensively and attempt to distil its essential elements. His treatise, *The Foundations of the Science of War*²⁹, written in 1925, is a thorough and incisive work seeking to systematise the study of war and quantify its principles. He develops the principles, beginning with an insightful consideration of war as three-fold in nature, consisting of: the physical sphere, the mental sphere, and the moral sphere. Using a pugilistic analogy, Fuller analyses the critical physical functions of any fighting force, which he considers to be *Guarding*, *Moving*, and *Hitting*. He then discusses in depth, the psychological and moral spheres. Central to this work is the analysis of the instrument of war, men, and their organisation into a force that seeks to attain the object of war. By contemplating this aspect deeply, Fuller actually uncovers the cohesive bonds that hold that instrument together. Therein lies his genius. From that exposition follows the focus, not on the instrument itself, the fighting force, but on the infrastructure that provides the framework for the instrument. Targeting this framework will bring about the rapid demise of the instrument itself. Contemporary writers on manoeuvre warfare such as Leonhard, Lind and Holden, also give extensive consideration to the psychological and moral aspects of their theories and acknowledge Fuller's seminal work.

Fuller's principles of war, as taught by many western military forces today, have evolved into the following³⁰:

- selection and maintenance of the aim
- concentration of force
- economy of force
- unity of command
- security
- surprise
- mobility
- morale

It is clear from his writings that Fuller was the creative genius behind what today is called manoeuvre warfare. He challenges the Clausewitzian view that the object of war is to destroy

the enemy force³¹, believing that idea to be based on his misinterpretation of Napoleons art. Fuller classifies two ways of destroying an enemy organisation:

- i.) By wearing it down (dissipating it)
- ii.) By rendering it inoperative (unhinging it).

The first, he describes as 'body warfare', that is, destroying the enemy's soldiers. The second, he describes as 'brain warfare', effectively rendering inoperative his power of command³². This second form is germinal to the doctrine of 'manoeuvre theory'. Clausewitz has been called the 'Mardi of Mass'³³ and the predominance of his theories, particularly at British and French Staff Colleges³⁴ prior to 1914, may be partly to blame for the murderous, unimaginative frontal assaults of the western front during the First World War. The generals of this war interpreted the Clausewitzian approach with its emphasis on offensive action³⁵, as throwing the mass of one's own force at the mass of the opposition's forces, with the outcome favouring the bigger and bolder side. It is true that Clausewitz did view war as a noble game, 'a duel on a large scale'³⁶, perhaps even an unfair game using superiority of numbers to force the other side to submit to one's own will. However it is unfair to accuse his writings as the main cause of the suicidal frontal assaults. He in turn may have been interpreted out of time and context.

Clausewitz died in 1832, long before trenches, the machine gun, indirect artillery fire, and barbed wire were applied to the battlefield, conferring a powerful advantage on the defender. He may well not have advocated such a direct route to the enemy under such conditions. Perhaps Clausewitz's most eminent contribution to the theory of war was his principle that proposed that an army's strength or 'centre of gravity' lies in its fighting force. He induced from this principle, therefore, that the 'main effort' of an attack should be directed at the centre of the enemy fighting mass. His writings also contained some of the essential elements of manoeuvre warfare; discussion on morale forces in war, boldness, and surprise. He does also talk about 'Economy of Forces' although he misses the point and actually expounds the idea of maximal use of all available force, almost without regard to the size of the objective. He is in fact promoting the opposite view to economy of force, based on the idea that no element of one's force should be idle. Clausewitz is often considered to be the interpreter of Napoleon's genius³⁷. Ironically Napoleon's favourite tactic was the *manoeuvre sur les derrieres*, by which he would avoid the mass of the enemy directly and attack from

the rear³⁸. This move secured many of his victories. Whatever the reasoning behind the frontal assaults of the Great War, the tragic results stimulated Fuller and Liddell Hart to develop an approach to war from a new angle.

Fuller espoused strongly a contrary view, that the 'centre of gravity' that should be targeted for maximum effect on the enemy, is its 'will' and the 'will' of its commander³⁹, in order to destroy their endurance and determination to fight. Fuller is one of the few writers since Sun Tsu to place such a heavy focus on the 'paralysis' of the enemy rather than on their bit by bit, piecemeal destruction. The originality of his thinking was based around finding the most effective and economic way to reduce the ability of an enemy to wage war and he aimed at unhinging an enemy by disrupting its cohesion, debilitating its co-ordination, and destroying its command and control. Liddell Hart continued this line of thought in his writings on the 'Indirect Approach' and armoured warfare⁴⁰, often pontificating as if he was the originator of the ideas. So it can be appreciated that, out of the events of the First and the Second World War, came ideas that were to develop into the current doctrine that is today taught as Manoeuvre Warfare.

The elusive concept of manoeuvre warfare must be defined. There are various definitions, but many writers wish to avoid formal definition altogether, proposing that it is easier to recognise manoeuvre warfare than define it. If, however, it is to be a useful and teachable theory with practical application, it then requires clarification. A theory by definition, is a view or conception held, of a connection between facts or elements, speculating on a particular relationship or causality⁴¹. Writers in the field that avoid definitions instead illustrate the concept, by identifying a number of features, some, but not necessarily all of which, will be contained in a manoeuvrist action. Other writers propose that it is all-inclusive of anything that works, including attritional warfare when the situation requires. If this is so, then manoeuvre warfare is a misnomer and is really just a super-set containing all instances of successful warfare. If manoeuvre theory is a real concept, open to review in order to have its validity tested, and taught, for application to the battlefield, then it needs quantification.

It is perhaps more accurate to view manoeuvre warfare as a concept at one end of a continuum, with attritional warfare at the other end. After all, it would be untenable to suggest that manoeuvre warfare should take up the whole continuum of possible warfighting philosophies. Manoeuvre and attrition are often considered to be polar opposites of one

another⁴². One seeks through surprise, speed, and focus to avoid enemy strength and bring about the quickest victory possible by striking at enemy vulnerabilities, while the other proposes that the best way to defeat your opponent, is to destroy him by throwing all your strength against his strength. It is true that there will be times when attritional warfare may be a suitable solution, particularly when the force ratio's are highly favourable to one's own side⁴³. There may also be actions that could be defined as part manoeuvrist and part attritionist. Firepower is undeniably an essential component of manoeuvre warfare. War without firepower would be very difficult. Yet manoeuvre warfare emphasises focussed firepower at vital points, from unexpected directions, aimed at critical vulnerabilities that are inadequately defended. Such is the concept of manoeuvre warfare, it is probably best viewed as a style of fighting that contains a number of elements, and the more elements of manoeuvre philosophy employed in a battle, the more manoeuvrist that action will be.

One definition of manoeuvre theory is 'A warfighting philosophy which seeks to defeat the enemy by shattering his morale and physical cohesion rather than to destroy him physically through incremental attrition'⁴⁴.

Critical to manoeuvre warfare seems to be the consideration of the potential to defeat an enemy's psychological and morale force, either before, or in conjunction with, its physical capabilities, as originally espoused by Fuller. So there are essentially two sides to the manoeuvrist coin; one is the focus on the enemy will to fight, the other is the focus on its ability to fight. Enemy will is defeated when it no longer believes that it can win. Enemy ability to fight is defeated when its cohesion is shattered. These two ends are closely related and are often accomplished simultaneously.

The common elements of manoeuvre warfare, as illustrated in fig. 1.1 below, are:

1. using mobility to manoeuvre one's own force
2. to gain a superior positional or functional advantage in relation to an enemy
3. while using superior tempo
4. at a particular focus
5. in order to defeat that enemy either by destroying that enemy's will to fight or its ability to fight
6. by attacking its vulnerabilities and avoiding its strengths.

Broadly, there are three means to bring about that defeat⁴⁵. The first is preemption. This is best defined as seizing an opportunity before the enemy does or as Sun Tzu put it 'to gain victory before the situation crystallizes'⁴⁶. This implies both seeing and exploiting an advantage not yet seen or realised by the enemy. An analogy to the boxing ring would see one boxer hitting his opponent while the opponent is looking at the referee and waiting for the opening gong to sound. It is very much tied up with the idea of time and by trading bold action now in order to buy time or an advantage later. An example of this is the strike carried out by the Israelis on the grounded Egyptian air force at the opening of the 1967 Six Day War. This action started the war but took the Egyptian air assets out of the equation⁴⁷.

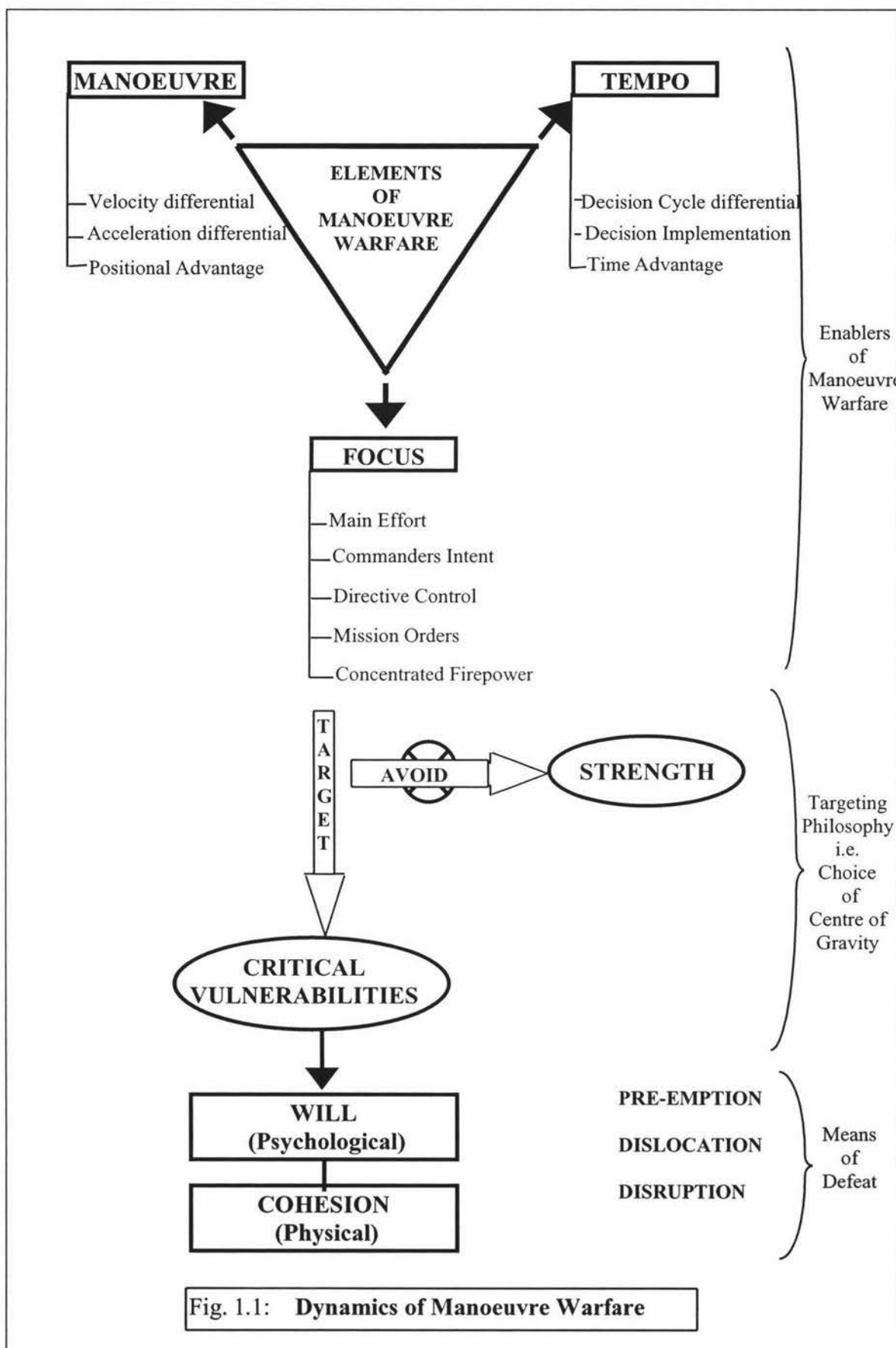
Dislocation is the second means of defeat. A pugilistic comparison, not strictly acceptable under the Marquess de Queensberry rules, would be a boxer, faced with a larger opponent, resorting to breaking his elbow, thereby taking his opposition's strongest offensive asset, his arm, out of the equation. So dislocation seeks to 'disable' or render an enemy strength irrelevant. From a military perspective there are two kinds of dislocation: positional and functional.

Positional dislocation is gained by out-manoeuvring an enemy to gain a positional advantage. Von Mantein's and Hitler's idea, to attack through the Ardennes forest in 1940, effectively outflanked the strong Maginot Line and avoided the strong divisions on the Belgian border. Once through the forest into France, the Allied strength was removed from the battle⁴⁸.

Functional dislocation is attained by using one of your own capabilities to avert an enemy strength. During the Gulf War, the US forces used the thermal imaging capability of their Apache helicopters to destroy the Iraqi armour, which, lacking similar technology, was unable to fight at night⁴⁹.

There is an old adage that says, 'when a tiger and an alligator meet in mortal combat the victor is determined by the ground they fight on'. This is very much the essence of dislocation; that is, not so much to control the fight itself but to determine when, where, or even if to engage the enemy, in order to neutralise his capabilities.

The third way to defeat an enemy is through disruption. Disruption is most effectively



attained by targeting the enemy centre of gravity; that is, his critical vulnerability, or Achilles heel. A critical vulnerability is a strength or vital function that is difficult to defend and has devastating consequences when destroyed. Liddell Hart calls it a joint and likened it to the joint in a limb, vital yet a weak point⁵⁰. Destroying a centre of gravity will shatter the enemy's cohesion, hence paralysing or neutralising his forces. Cohesion is destroyed by breaking the control over, or linkages between, the enemy elements, thereby destroying the enemy's ability to fight, usually by a lack of some vital resource; fuel, food, ammunition, communication, or coordination. Targeting the C3I (command, control, communications, and intelligence) is a very effective way of doing this. No matter how big an army is, if it has no food, ammunition, or idea where the enemy is, then it will not be able to put up effective resistance. A classic example of disruption is the wooden horse at Troy that avoids the strength of the enemy fortification and gets the troops inside to strike at the vulnerable heart of their strength. Another more recent example of disruption is the activities of David Stirling's SAS in the Western Desert of Libya and Egypt during World War II. By striking deep at strategic targets such as petrol dumps, airfields, and supply lines, they caused an inordinate amount of disruption, far out-weighting the resources that they needed to operate in that environment⁵¹.

All three categories of defeat are not mutually exclusive. Clearly an action that destroys an enemy command post must be part disruption and part dislocation. The definitions are useful if academic. Having considered these three means of inducing a defeat, the key operational elements of manoeuvre warfare will be qualified. As defined in the manoeuvre warfare model (Fig. 1.1), they are; manoeuvre, tempo, and focus. The methods used to implement them will also be covered.

Manoeuvre theory acknowledges that the battlefield is a highly chaotic place⁵². Clausewitz called it the 'fog of war' and wrote about how friction in war causes even the simplest of things to become complex⁵³. Battles have always been about chaos and confusion, however, it is the side that imposes the most control on this chaos that controls the battle. The manoeuvrists seek to utilise this battlefield chaos and turn it to their advantage. This is done by trying to inflict chaos on the enemy, thereby instilling maximum confusion on its organisation. Central to the idea of using chaos to maximum effect is tempo.

Tempo is simply the speed at which things are completed. It is primarily about the time taken

or operating pace of one's thinking, planning, acting and reacting. Time is, maybe, the most vital resource that a commander can hold, as expressed by Wellington at Waterloo in his plea, 'Give me Blucher or give me night', referring to the need for the imminent arrival of Marshal Blucher's force⁵⁴. Battle is essentially about being superior to one's opponent at moving one's own forces, in order to maximise advantage in time and space. Recently, a new paradigm in warfare encompassing manoeuvre theory, has taken the concept of time and viewed it as the primary resource in conflict, to be used to attain a critical advantage over the enemy⁵⁵. With the advent of modern technology, this crucial resource has become increasingly scarce on the battlefield. Illustrating this notion, a decision that, in the operational environment of the American War of Independence, could have been taken over a month, now demands to be made over a few hours. With the acceleration of technology and speed of mobility, time has been compressed or, viewed in another way, the number of events occurring within any given time period has increased. Therefore, to gain a time differential advantage over an enemy is now more valuable than ever before. Manoeuvrists attempt to achieve this by being faster than their enemy at all vital activities, and in particular, their decision making.

One model used to conceptualise this idea is the OODA loop or Boyd Cycle⁵⁶. This model views decision making and decision implementation as a cyclical process consisting of four activities: Observation, Orientation, Decision, and Action. Its creator was a US Air Force officer, Colonel Boyd, who analysed aerial combats between Korean and US fighter pilots in the Korean War. Although the US F-86 Sabre jet-fighters had inferior engine performance in comparison with the Korean MiG-15 jet-fighters, they were actually achieving a greater number of combat successes. Analysis of the combats determined that the US aircraft were superior in two regards; they had greater all round observation out of their cockpit canopies, and they had faster transition times from one manoeuvre to the next. As a result, their decision making and action initiating times were faster than the Korean pilots, which allowed the US pilots to often stay one move ahead. This concept is now considered integral to manoeuvre warfare; that is, the ability to out-decide your enemy, to get inside his decision making cycle and consistently be faster than he is, consequently giving him an increasing number of bad situations to deal with. By doing this, one can generate a faster tempo than the enemy. By attaining a faster tempo of operation, one can impose more chaos and confusion on the enemy operating environment than on one's own environment.

DECISION CYCLING:

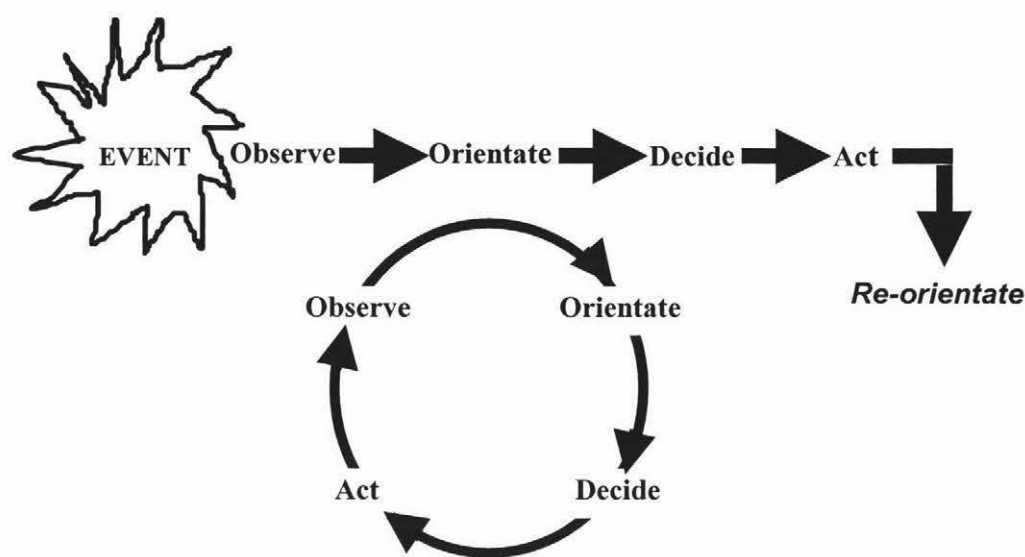


Fig. 1.3: Boyd Cycle or OODA Loop

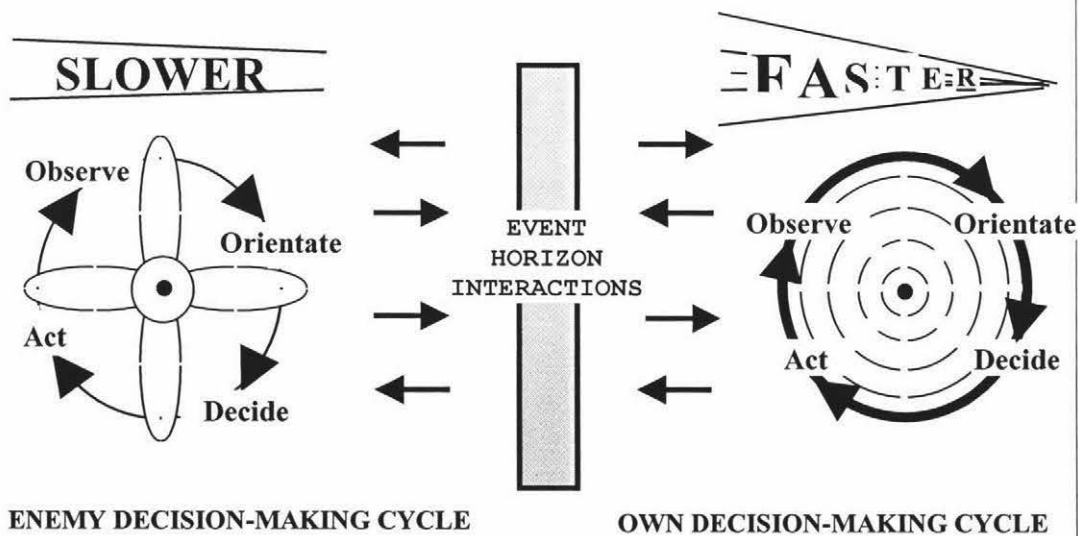


Fig. 1.3:
Illustration of differential in
Decision Making Speeds (Cycles)

Fundamental to the ability for one side to consistently operate at a faster tempo than its opposition is the need for that side to know what it is supposed to be achieving. To be able to decide and act faster than the enemy, it must be sure of its end objective. Focus is one of the crucial elements of manoeuvre warfare. If a force is to avoid enemy strengths and attack enemy vulnerabilities, it must be able to operate in a fluid and flexible manner, adapting to circumstances as they unfold. Having the authority to make decisions on the spot, without referring back to higher command for further orders is vital to enabling rapidity of decision⁵⁷. Time is of the essence and opportunities can disappear if orders from higher command are required, as in the *Directed Control* method. Additionally, it is the officer on the ground that is usually in the best position to make an accurate appreciation of the situation. In order to empower subordinates with the knowledge and ability to make the decisions that will exploit opportunity as it arises, a system known as *Directive Control*, as opposed to the tightly guided *Directed Control*, is utilised.

This ensures that a subordinate is not tightly bound by inflexible orders but is in fact made aware of the *Commander's Intent* and given the authority to carry out that intent depending on how best he sees fit once the situation on the ground is assessed. This is achieved through a German orders system, originally introduced by Moltke the elder, but only recently known as *Auftragstaktik* or *Mission Tactics*⁵⁸. The orders are given in a form that communicates to the sub-ordinate commander the intent of the commander two command-levels higher up, so that if the sub-ordinate's situation changes he can still make decisions that are congruent with the overall objective. Obviously this principle relies on intelligent subordinates and, at a sub-unit level, NCO's that have the necessary ability and initiative to assess the situation and make effective decisions. If they can do this and act boldly on their own initiative, then, they are in the best position to influence the battle as it unfolds. One other critical ingredient required to enable the effectiveness of this system, is the ability and willingness of senior-level officers to relinquish the necessary authority to those under their command. This is by no means an easy accomplishment for commanders who have been indoctrinated in the traditional military 'chain of command' culture⁵⁹. Consistent with this idea of an overarching objective, is the designation of a *Main Effort*, or *Schwerpunkt*. Manoeuvre theory states that a *Main Effort* always be assigned, so that the force is clear about its overall aim and can direct all activity toward that end. This was originally proposed as Fuller's first principle of war; the selection and maintenance of the aim, of which it is vital to be clear about on a frenetic field of battle.

The doctrine on manoeuvre theory embraces the idea that the battlefield is a dynamic, fluid, and constantly changing environment. Enemy force dispositions are not always known in advance and can change very rapidly. The vastly increased mobility of troops in World War Two contributed greatly to battlefield dynamism. As a result, manoeuvre theory stresses the principle of *Reconnaissance Pull*. As an extension of *Directive Control* and the *Schwerpunkt*, *Reconnaissance* or 'Recce' Pull allows for the lead elements of an advancing force to actually 'feel out' the way, for they are in the best position to see enemy strengths and route around them, while looking for enemy vulnerability's to attack⁶⁰. This is of course derived from Sun Tsu's analogy to water flowing down the path of least resistance⁶¹. Traditionally, reconnaissance elements would advance down the axis assigned to them, in more of a *Command Push*, directing follow-on units to the location of enemy units that needed to be attacked⁶².

The Soviets have been credited with the development of another important concept of manoeuvre theory, the 'Deep Battle' concept⁶³. Marshal Tukhachevski worked extensively on 'Deep Operational theory' through the 1930s, which placed emphasis on a dichotomy of force, that is, a holding element and a mobile element. In addition it focused on the combined arms concept including armoured and air co-ordination, tempo, simultaneity and depth of attack. Tukhachevski's analysis of forces in battle used physics and some of its basic properties, as effective metaphors for the dynamics of units on the battlefield. The 'momentum' of a unit was therefore considered as its fighting mass times its speed. The 'force' of a unit was calculated as its mass times its acceleration (or ability to change direction in a given time). Force, therefore brought the property of manoeuvre into the equation. All of these 'physical properties' of military units have time as a vital constituent factor. These concepts are considered to be important aspects of contemporary manoeuvre theory and are also discussed today as having been components of Blitzkrieg.

Now that the theory and key elements of manoeuvre warfare have been outlined and modeled, it is possible to analyse a battle, operation, or campaign and determine whether or not it was essentially manoeuvrist in its plan and execution. A battle that is based on manoeuvre warfare doctrine will essentially contain the application of preemption, dislocation, or disruption, or a combination of all of these. It will be unorthodox and will contain surprise. It will avoid enemy strength and hit enemy weaknesses and vulnerabilities.

This will usually mean striking deep in the rear, or on a flank, targeting C3I and using simultaneous strikes. It will primarily seek to break apart the enemy by destroying its cohesion and its desire to fight. It will ideally break them morally and psychologically, if possible negating the need for a traditional battle. Critically, if battle is necessary it will avoid the enemy strength. It will rely on the speed and manoeuvrability rather than the mass of its force⁶⁴ and it will seek to gain positional advantage by out-maneuvring its enemy in time and space. To do this and to utilise the battlefield chaos it will have a faster operating tempo than its enemy. Finally, in order for the force to adapt to the fluidity of the battle it will need a clearly communicated focus, a *Main Effort* or *Schwerpunkt*.

The main Wehrmacht operations of the Second World War can now be assessed with respect to the model of manoeuvre warfare outlined. By overlaying the key elements of this template, onto the known Wehrmacht battle histories, the question can be resolved: 'Did the Wehrmacht primarily use manoeuvre warfare, in their battles of World War Two'? The Polish campaign will be examined first.

Chapter Two

THE POLISH CAMPAIGN

After annexing Austria in 1938 and Czecho-Slovakia the following year, Germany invaded Poland, without any declaration of war on 1 September 1939. Polish forces offered a brave resistance yet most of the country was taken within the first three weeks. Once the Polish forces had been largely materially defeated, Soviet Russian forces began a separate attack from the east on 17 September. At Brest-Litovsk the fellow conquerors met and by agreement divided Poland in two, with a line running from East Prussia to the Carpathian mountains, following the River Bug. As the Polish national forces were being destroyed, Warsaw was garrisoned and despite heavy bombardment from both the air and ground, the occupants held out until September 28. Despite the failure of France and Britain to honour their previous promises to come to Poland's aid, it had still been an incredibly rapid victory for Germany⁶⁵. It was so fast that a journalist writing for *Time* described it as 'lightning warfare', coining the term, which in German translates to 'Blitzkrieg'. The speed at which Poland fell shocked the world, the Polish, and probably even the Germans. The Polish Army had been considered a strong, well trained force with an elite Cavalry which had proved very effective against the Red Army under Marshall Tukhachevski, in the struggle for Polish independence from 1918 to 1920. Now it was totally defeated in less than five weeks⁶⁶.

From a defensive perspective, Poland was highly vulnerable. Strategically the Poles were defeated before the invasion began, surrounded by an aggressive Germany, an annexed Czecho-Slovakia and the old foe, Russia⁶⁷. Apart from the rivers, the only natural defensive feature was the Carpathian mountain range along the southern border with Czecho-Slovakia. The rest of Poland was mainly covered in open plains, which made ideal ground for tanks.

Concerns over rapid German growth had forced the Poles to examine their forces in the light of future possible conflict as early as 1936. That commission had recommended the development of armoured, mechanised forces⁶⁸. However by 1939 they still only had one

fully formed mechanised cavalry brigade (the 10th, or Black Brigade) with another being put together, and three independent battalions of light tanks⁶⁹. Their primary armour consisted of Polish 7-TP tanks, which were an upgraded version of the British Vickers six-ton tank, and French Renault R-35 light tanks. Tankette companies also supported the infantry and cavalry formations. Polish anti-tank weaponry consisted of the Bofors 37mm anti-tank gun, which proved effective against the thin German armour, and infantry anti-tank rifles. The core strength of the Polish army still lay in their 30 active infantry divisions, with another 15 held in cadre status⁷⁰. In support of the infantry were eleven elite cavalry brigades, essentially mounted although with some tankettes and armoured cars for reconnaissance support⁷¹ (see Table I.). Horses provided virtually all the transport including the artillery.

Table I. *German and Polish Strength Comparison on 1 September 1939.*⁷²

	Men	Incl. frontier guards	Amd. and mot. divs.	Inf. divs.	Mtn. divs.	Cav. brigs.	Total formations	Amd. vehs.	Guns	Planes	Ships
Wehrm. East.Frt	1.5m.	90000	15	37	1	1	54	3600	6000	1929	40
Poland	1.3m.	60000	1 brig.	37	-	11	49	750	4000	900	50

An overview of the force comparison figures in table I gives an idea of the gross disparity between the two sides and is even more disparate when the quality and technology of equipment is considered. Critically, it was the fifteen German armoured divisions matched up against a single armoured brigade, the 3,600 armoured vehicles versus the 750 Polish tanks, and the 1,929 modern planes of the Luftwaffe facing the 900 outdated aircraft of the Polish Air Force that imbalanced the equation so drastically. When the armoured and air assets were combined and then coordinated closely through wireless communication, the force multiplication effect became greatly significant.

The OKW (Wehrmacht High Command) plan for the invasion of Poland, code named *Fall Weiss* (Case White), was essentially a giant pincer attack involving two *Heeresgruppen* (Army Groups). Army Group North, commanded by *Generaloberst* (General-Colonel) von Bock, would set out from Pomerania and East Prussia, while Army Group South, commanded by *Generaloberst* von Rundstedt, would provide the main effort, striking out from the

southern end of the border with Germany and Czecho-Slovakia. The two great arms would close in towards Warsaw, thereby creating a huge strategic encirclement of all the Polish forces west of the river Vistula. There they could be destroyed, while simultaneously a wider secondary pincer movement outside the main arms would envelope any forces which managed to escape⁷³. In hindsight, although it seems that the plan could not have failed, the German Chief of General Staff from 1891 to 1906, Alfred von Schlieffen had warned in 1893 that a strategic sized encirclement of Poland should not be attempted. His reasoning for this belief was that the encirclement would be too large. The distance between the two arms would leave the two groups isolated from one another should either run into difficulties. That distance was still about 400 kilometres in 1939, yet mechanised technology was now increasing the speed of troops and effectively reducing the size of the battlefield⁷⁴.

Schlieffen's original conceptual teaching was however observed, with a huge operation of encirclement, focussing not on the reaching of a specific line but on annihilation of Poland through the destruction of its fighting forces⁷⁵. This was the essence of their *Schwerpunktbildung* (creation of points of main emphasis), for the campaign. The intention was to encircle the Polish strength and then destroy it. A definitive operations order had been prepared by OKH (*Oberkommando Heer* – Army High Command) by 15 June, with the objective of defeating the bulk of the Polish forces as quickly as possible. This was seen as a necessity in order to avoid war on two fronts for the Germans, as the High Command were concerned that the French might take the opportunity to invade from the west⁷⁶. War on two fronts was something that resource-dependant Germany could not propagate for an extended time and one that had been unsuccessful some 20 years earlier. Hitler gave assurances that this would not happen, gambling that France and Great Britain would not be prepared to go to war to save Poland and would be even less inclined to do so once the Soviets invaded, as it would mean them also declaring war on Russia⁷⁷. The General Staff was not so convinced and it has been claimed by Guderian, among others, that the majority of the officer corps were against the invasion of Poland and the war in general⁷⁸. However, preparations continued, to employ an invasion force that combined the latest technology with an indoctrinated Prusso-German strategy of annihilation. Speed was considered critical for a quick and decisive victory that would minimise the risk posed from the west.

The Poles had been becoming increasingly concerned about the buildup of German forces and had been in a state of partial mobilisation since 23 March but only went to general

mobilisation on 30 August. Polish intelligence was adequate and the general location of German troop concentrations and direction of the main effort was generally predicted⁷⁹. Even so, the invasion date still took the Poles by surprise, as did the extent of the outflanking movement. Polish military thinking was still firmly founded in First World War methodology. The resultant operational tempo was set at the pace of a 1914 foot-soldier and only about a third of the troops were in a combat state when the threat materialised. From a geographical perspective, Poland was difficult to defend, with a wide frontier that now extended 1,750 miles, with the occupation of Czecho-Slovakia. While good roads were scarce, the Polish plain was well suited to the movement of mechanised forces. The Panzer groups could enjoy a great manoeuvre advantage allowing them to encircle the Polish forces without much difficulty. A warm summer had also minimised the natural defences of the usually full rivers. The best defensive plan would have been for the Polish Army to withdraw to defensive positions on the eastern side of the broad river barriers of the San and the Vistula. Poland was not a wealthy country and for economic reasons this was not done, as much of the land's industrial resources lay in the west of the country. Consequently the majority of the army lay to the west of the Vistula⁸⁰.

The Polish High Command realised that their army would not be able to defeat and throw back a superior Wehrmacht, so under Plan 'Z' *Zachod* (West, in Polish), it was envisioned that a series of delaying actions would be fought as the Poles pulled back to previously prepared defensive lines. If the Poles could slow the German advance it would allow the deeper defensive fortifications to be strengthened while the British and French mobilised and prepared their response. The Poles hoped they could hold the battle for six months⁸¹. Seven Polish Armies were situated in a first echelon, close to the borders. In the north these were the Narew Operations Group, together with the Modlin and Pomorze Armies. In the south were the Poznan, Lodz, Krakow, and Karpaty Armies. The large Prusy Army, as strategic reserve was located centrally, as well as three smaller reserve formations, placed in a deeper second echelon, to be directed as required, as the battle developed

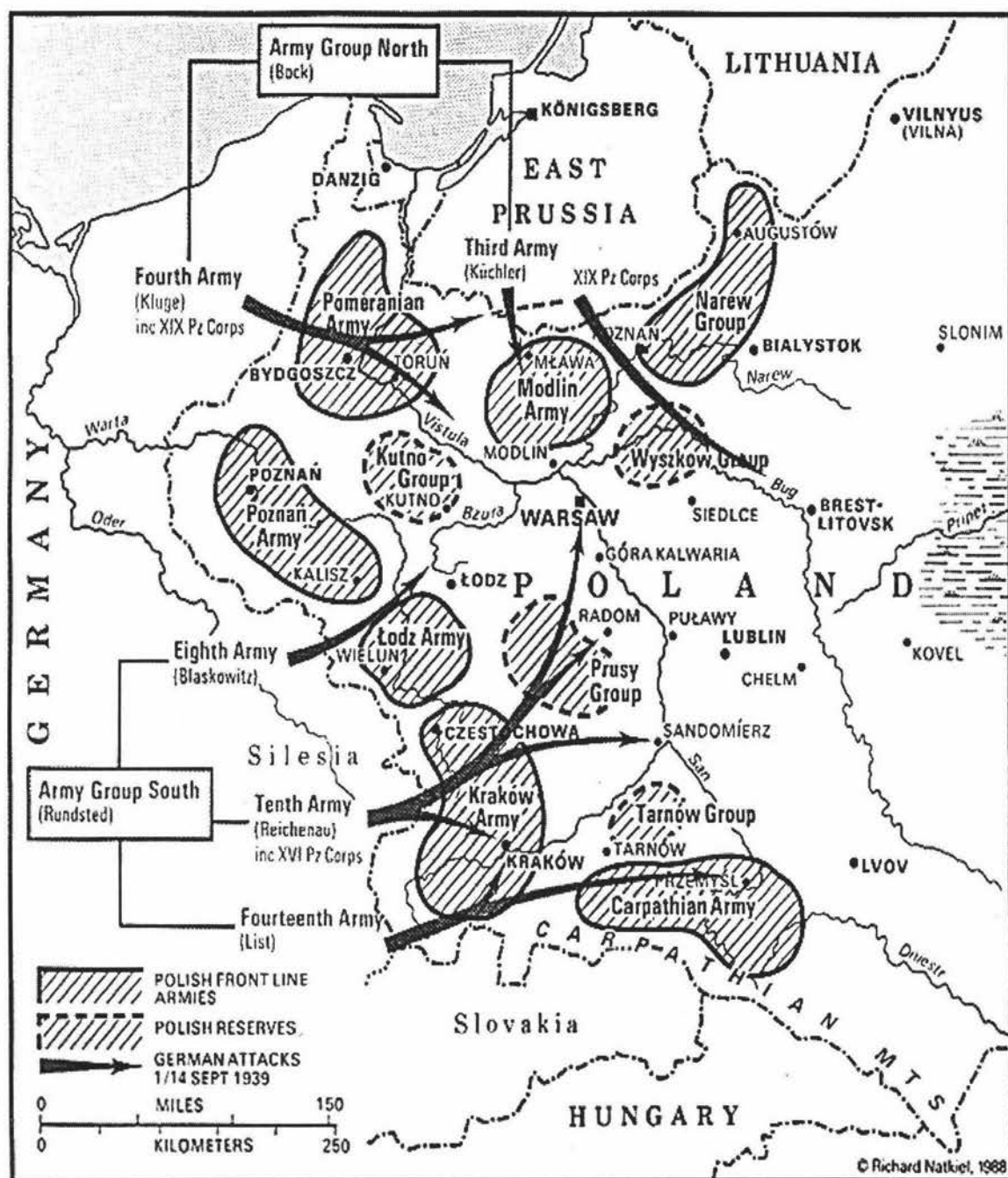
1 September was designated as 'Y-day' (day of the attack). German forces crossed the border at 0445 hrs. The Luftwaffe began air attacks by Ju-87 Stukas at 0434 hrs on units defending the strategically vital bridge at Tczew. About the same time, the Luftwaffe attacked most of the very inferior Polish air force while it was still on the ground⁸². It has been claimed that the majority of the best Polish aircraft had previously been moved to

deeper locations for safe guarding⁸³ but whatever the details, the Polish air force rarely engaged the Luftwaffe after the first day and air superiority was gained early in the campaign. The Luftwaffe, due to this early and vitally important advantage, was able to operate in a very dispersed way, thereby creating pressure on the Poles over a wide area. The rail system, being a high priority target, was also destroyed soon after the invasion began⁸⁴.

In the north, 4th Army, under Kluge, crossed the border from German Pomerania and attempted to link up with the western wing of the 3rd Army, under Kuchler, coming from East Prussia. Considerable opposition was met in this area of the corridor and the Poles managed to blow up the bridge at Tczew which delayed, for a considerable time, a rail link between Pomerania and East Prussia⁸⁵. The Luftwaffe was unable to provide close air support for the ground troops early on the first day, due to fog cover, and the Poles fought hard with some success⁸⁶. Incredibly, the 2nd (Motorised) Infantry Division of Guderian's XIX Corps even requested to withdraw under pressure from Polish Cavalry. The situation was so serious that Guderian felt compelled to visit the front himself in order to restore leadership over his panicked troops⁸⁷. It was in fact the courageous actions of the Polish cavalry in this area that created the myths of lance charges against tanks.

Despite the preeminence of the cavalry in their order of battle, the Poles had stopped taking lances into the field in 1938. However, a successful close range sabre charge was carried out by the 18th Lancers against a surprised group of German infantry, resting in a forest clearing. As the Polish cavalry were reforming, a squadron of armoured cars emerged from the forest and opened fire with machine guns, on the Poles, who took a large number of casualties including their commanding officer. In the panic that ensued the cavalry dispersed in all directions to find cover, some running through the armoured formation⁸⁸.

It was, in one sense, the strong spirit and belief in the offensive, embodied by the Polish army, that enabled the attackers to move so rapidly through the country. The Poles had spent little time preparing strong defences, so that once the Germans were through the front lines, progress was fast and confusion rampant, among the disparate groups of Poles left fighting uncoordinated battles⁸⁹. Another area where the Polish forces were inferior was in communications and this contributed greatly to the inability of the Polish High Command to direct a cohesive response⁹⁰. Conversely, Guderian, who had previous signals experience, had ensured during the development of the armoured forces that they were all connected in a



Map 2.1: The Invasion of Poland

net with radio sets, enabling well coordinated movement⁹¹. There is no doubt that the Poles had the ability to fight well as soldiers but unfortunately they were trying to counter a modern force while using First World War tactics and technology.

In the corridor between Pomerania and East Prussia, Polish forces were encircled and destroyed in the Bory Tucholskie forest⁹². By 3 September, the 4th Army had linked up with the 3rd Army in East Prussia. Within the first two days, the Poles had largely lost their freedom of movement and OKH believed they had no option but to stand their ground and fight a decisive battle west of the Vistula⁹³. The Krakow, Lodz, and Pomorze Armies, named after their geographic zones, had been badly mauled, while the German 3rd and 4th Armies of Army Group North, had outflanked the Modlin army from both sides. In similarly untenable positions were the Polish reserves. The Narew operational group was fighting defensively in the north-east, and the main Polish reserve army, the Prusy Army had been trapped by German armour and aircraft.

Strategic operations were flown by the Luftwaffe for the first few days, after which they mainly flew direct and indirect support missions for the army. After destroying armament factories and communications, they attacked the retreating enemy, and bombed Lodz, Warsaw, Deblin, and Sandomierz⁹⁴.

The integration of air with ground forces was fundamental to the effectiveness of Blitzkrieg. Formed in 1935, the Luftwaffe was shaped, largely, by Milch, who was the former civilian Lufthansa head, as well as Udet, Kesselring, and to a lesser extent, the flamboyant Goering. The Italian air power theorist, Douhet, had published his book, *The Command of the Air*, in 1921. It had proposed the strategic use of air assets to destroy an enemy by striking its civilian, and vital industrial and commercial targets. By doing this, the intention was to cut away the underlying support for an armed force⁹⁵. While the Luftwaffe was capable of both strategic and tactical employment, its strength was clearly at the tactical level. Its strike force aircraft, specifically the JU-87 Stuka dive-bomber, was designed for close air support of ground troops and interdiction of supplies/reinforcements to the battlefield. It was considered crucial for the air-assets to act as a 'flying artillery platform', as the fast moving armour would soon out-range its artillery support. Consequently, close air support took the main priority role in the attack plan. This was to the detriment of the interdiction role, which became of secondary importance⁹⁶ and was only to be effected if the primary target, the

enemy force on the battlefield, had been destroyed⁹⁷. However, at the outbreak of the Second World War there was no other military force in the world that shared such a close armoured/air relationship as the Wehrmacht had.

The progress of Army Group South was going well with the 8th and 10th Armies chasing the retreating Poles. By 4 September, the spearheads of the 10th Army, which provided the main effort, had crossed the Pilica river, and by 6 September, the left wing having taken Tomaszow, was past Lodz. Advanced armoured formations then exploited a gap between Lodz and the Pilica river. They raced ahead and by 8 September had reached the outskirts of Warsaw. On 6 September the 14th Army took Cracow almost unopposed, while their extreme southern wing, consisting of XVIII Corps overcame heavy opposition in the Beskid mountains⁹⁸.

On 9 September, OKH adjusted German operations for a new estimate of the situation. They considered it possible that the majority of the retreating Poles would make it across the Vistula. Both army groups extended pincer movements to the east of the Vistula, although Reichenau, commanding the 10th Army, held the view that the bulk of the Polish forces could still be encircled west of the Vistula, which ultimately proved correct. Guderian's XIX Armoured Corps of the Third Army drove southwards down the line of the Bug River in a wide eastern outflanking move to Brest-Litovsk⁹⁹. On 12 September, while moving eastwards, Kleist's armoured corps from the 14th Army was stopped by Polish resistance at the city of Lwow but continued the wide outflanking pincer in a northerly direction to meet up with the forces coming down from the south. The German noose tightened around Modlin and Warsaw. Fierce resistance continued however with a number of remnant formations from the Polish Armies in the north joining the Poznan Army as it was falling back to the east. The Poles offered battle to the rapidly moving German 8th Army at the river Bzura. Heavy fighting continued for six days, in what was to be the largest battle in Europe until the invasion of Russia¹⁰⁰. Highlighting one of the problems of advancing with great speed, the 8th Army became threatened from the flank and rear, necessitating the commander, Blaskowitz, to turn part of his force right around to protect its own flanks from Polish counter-attack. Some of the consequences of mobile warfare were now revisiting the old German lesson from the First World War offensives about the need for flank protection. That risk accepted, the advantages gained by the rapidity of movement, and the new capacity to rapidly position firepower from unexpected directions seemed to outweigh the vulnerability

caused in the flanks¹⁰¹.

Events on 17 September however sealed the fate of the Poles. The northern and southern tips of the German pincers met fifty miles south of Brest-Litovsk while the Soviets invaded from the east, taking advantage of the badly mauled Polish defenders. Warsaw continued its defiance, all the while under repeated heavy bombardment from the air and ground, until surrendering on 21 September. The last pockets of Polish forces continued fighting at the Hel peninsula until surrendering on 1 October.¹⁰²

Undeniably, the war propagated by the Wehrmacht in Poland was fast paced. Its duration of five weeks was even more significant when compared with the stagnant battles that lasted many months, of the First World War, which were still in the memories of many of the Polish soldiers. The German method of fighting was clearly working. To many observers in the rest of the world, it appeared that the Wehrmacht had developed some new and doctrinally profound strategy. The legacy of the successes of Blitzkrieg lives on today among the manoeuvre theorists who claim to have integrated its essential elements into the fabric of manoeuvre warfare. What were the elements of manoeuvre theory that came to the fore in Poland?

The campaign had lasted only a month. Yet the Germans had suffered 44,000 casualties. That figure sounds high until compared to the Polish figure of 253,000 casualties, not including those missing. German equipment losses were also high, with up to 400 tanks, and 560 aircraft destroyed. Some estimates have suggested that the Wehrmacht lost over twenty percent of their total tank force¹⁰³.

Thinly veiled in these figures is an important part of the story. Central to manoeuvre theory is the premise that an enemy is most easily dislocated and disrupted if his cohesion can be destroyed. It has been stated that Blitzkrieg was based around destroying the systems that hold the different enemy units together as one whole, functioning force. If this can be done, the need to destroy the enemy's strength, often its fighting force, can be negated. Because cohesion is easier to destroy and proportionately more devastating (for an equivalent amount of applied strike package) than targeting the actual fighting force, cohesion becomes the critical vulnerability. Once its cohesion is destroyed it is no longer able to fight. The pivotal point is determining where the actual enemy centre of gravity is. Clausewitzian theory states

that the centre of gravity is the enemy strength, that is, its fighting force or combat assets¹⁰⁴. Manoeuvre theory is founded on the proposition that the enemy centre of gravity is its critical vulnerability (see Fig. 1.1, Chp. 1). Its targeting philosophy focuses on disrupting command and control, logistics areas, supply lines, and even morale¹⁰⁵.

The casualty figures of 253,000 Poles and a not insignificant 44,000 Germans, reflect the fundamentally Clausewitzian approach that was taken by the Wehrmacht in its identification of the Polish centre's of gravity. Clearly much of the Polish fielded armed force, along with its combat assets, were destroyed. The Germans had targeted Polish strengths. The aim was to destroy the enemy by attacking its army, fighting assets and aircraft. By contrast, a campaign propagated under the rubric of manoeuvre philosophy would have primarily aimed to disrupt command and control, and consequently cohesion, thereby reducing the Polish ability to fight.

It is impossible to achieve such campaign aims as annihilation of the enemy without recourse to extensive application of firepower. Manoeuvre theory places its emphasis on manoeuvre over firepower. If the manoeuvre component is applied in a skilled enough way, the need for battle is sometimes avoided through dislocation of the enemy strength. Hence the need to engage the opposing force is negated. The enemy realise that its situation is dire and may choose to surrender rather than fight on to inevitable destruction. There is no doubt that the Wehrmacht possessed superior manoeuvre capability to the Poles. However they also possessed superior firepower. Effective use of that manoeuvre advantage should have reduced the need for the firepower component. The actual campaign history dictates that that did not happen.

The overall German plan of operations for the invasion of Poland was in fact the manifestation of what the General Staff had been espousing for many years. As Chief of General Staff after Moltke the elder, General von Schlieffen (1833-1913), had instigated a series of lectures called the 'Cannae Studies'¹⁰⁶. In an attempt to meld Clausewitzian philosophy with practical warfare, he selectively used battles histories, such as Cannae and Koniggratz (also known as the battle of Sadowa), to support the virtues of encirclement and annihilation. Encirclement would close off escape routes and cause the foe to fight on a reversed front, while annihilation ensured the destruction of the enemy centre of gravity, as defined by Clausewitz. This strategic doctrine of *Kesselschlacht* (pocket battle) and

Vernichtungsgedanke (annihilation concept) was to dominate Prusso-German military thinking until the end of the Second World War.

With the advent of armour and air power, the traditional Prusso-German strategies could now be applied at speed and on a grand scale, reviving Schlieffen's maxim of 'operation means movement'¹⁰⁷. Ever cognisant of the threat from the west and unable to fight a war on two fronts, rapidly mobile warfare was vital to Hitler's campaign aims for a quick and complete victory over Poland, ensuring the destruction of their fighting force. Never would it be easier than against the Poles, a vastly understrength enemy, essentially trained and equipped to fight as they had in the First World War.

The Blitzkrieg defeat of Poland is often held up as manoeuvre warfare in its purest form, primarily it is claimed, because the Wehrmacht operated at a superior tempo with the aim of destroying the enemy cohesion. Certainly the cohesion of the Polish forces fell apart very quickly yet the real reason for this was not because the Germans targeted Polish command and control, but rather as a result of an inordinate mobility and air superiority advantage, while actually targeting the enemy fielded force. The changes made to the German operational plan during the campaign suggest that the rapid Polish dissolution in fact came as a surprise to the Wehrmacht, as they had not targeted cohesion. As a result, the Polish forces did not remain concentrated enough to facilitate a strategic sized envelopment, but dispersed in disjointed groups, lacking the communication technology to effect a controlled and coordinated defence. This random resistance necessitated a number of smaller, tactical sized cauldron battles, as occurred on the Bzura river near Kutno, at Warsaw, at Radom, and northwest of Lemberg. Much of the Polish army was destroyed in these *Kesselschlachts* or 'pocket battles'. The end result was 'mechanised Clausewitz' with much attritional fighting, that considered the Polish centre of gravity as its armed elements. The reality was that the Polish fighting force was an ill-prepared, vastly outdated, out equipped, and numerically inferior opposition, pitted against a modern, mechanised force, with greater firepower.

Chapter Three

THE FRENCH CAMPAIGN

Although Hitler's initial intention was to invade France almost immediately following the Polish campaign, the actual invasion did not occur until 10 May 1940. While not possessed of the same spirit as their First World War fathers, the French Army was generally considered to be one of the strongest on the continent. Hitler had long dreamed of 'one last decisive battle against France'¹⁰⁸, Germany's traditional foe. To the surprise of many on both sides, and in stark contrast to 1914, victory this time came very fast for the Wehrmacht, with France capitulating on the 21st of June, six weeks after the campaign began.

'Operation means movement', wrote Schlieffen¹⁰⁹. Frederick the Great said: 'To advance means to conquer'¹¹⁰. Mechanisation now provided the means for rapid movement on the battlefield. Armour provided protection for the mobile firepower of the tank. Fuller described those three components as the physical elements of the science of war: to move, while protecting one's force, and to strike¹¹¹. A critical element of manoeuvre warfare is the ability to concentrate combat power in time and space at decisive points, essentially allowing one's own forces to be strong where the enemy is weak. Napoleon did it well. To be able to do this time and again, faster than the enemy, will encourage battlefield success. In essence, this is the ability to think faster, and then to act faster, than the enemy. Against the Poles victory had been achieved by *force majeure*. They had been 'outgunned' by a force superior both numerically and qualitatively in equipment. By contrast, the French were about to be beaten by a force that was consistently faster, both strategically, operationally and tactically. The rapid, offensive employment of mechanised armoured firepower was to provide the means for a faster operating tempo.

Germany had never been a country strong in natural resources, relying on imports for much of its raw materials. Economically, it had been severely strained during the previous World War and had learnt that it should not fight either a protracted war of attrition, or a war on two fronts. Some writers have suggested that it was Germany's lack of natural resources that

proved the prime motivation for the 'Blitzkrieg' philosophy, a need for lightning victories in order to then use the defeated country's own resources for furthering the desires of the Fuehrer. The delay in launching the invasion of France is often attributed to pressure from the High Command to ensure that sufficient preparation had occurred and that adequate forces were built up. It is true that many high level commanders, including even Goering, held the view that Germany was in no position and would not be for some considerable time, either militarily or economically, to wage war against the western allies¹¹². There was also a belief held by many in the German military that it would be morally wrong to continue invading other nation states, especially neutral ones, and even hope of a political solution or a negotiated peace if Hitler could be deterred for long enough¹¹³. However the reasons for the delays resulted as much from Hitler's unclear strategic objectives, as from the efforts of the High Command¹¹⁴. In all, 29 postponements and new invasion dates occurred before May 1940. Nevertheless, some eight months after the conquest of Poland, during which time the Reich invaded Denmark and Norway, the attack on France was launched.

Contemporary manoeuvre warfare doctrine teaches that battlefield problems should be approached with unique and unexpected solutions. The German invasion of France and the neutral low countries of Belgium and Holland is often revered as a classic example of such novelty. The invasion that actually took place on 10 May 1940 was, however, very different to the initial plan for the invasion, based on the traditional solution which had been taught extensively at the German Staff College during the interwar years¹¹⁵. The original version of the plan, known as *Fall Gelb* (Case Yellow), is often claimed to be a repetition of the Schlieffen Plan effected in 1914, in which France was invaded through Belgium. This is partially true, although in contrast to the original Schlieffen Plan, Case Yellow was particularly vague and not well thought out¹¹⁶.

With a Clausewitzian mindset, the Germans identified the enemy centre of gravity as the allied fighting forces. The concept of *Schwerpunkt* as taught in pre-war German military doctrine was literally as it translates to the English, heavypoint. The *Schwerpunkt* or heavypoint therefore meant the point that identified the enemy *centrum gravitatis*, or centre of gravity. This is where Clausewitzian theory said that the main effort should be applied¹¹⁷. It must be noted that the contemporary concept of *Schwerpunkt*, integral to modern manoeuvre theory has evolved to a different interpretation. The current targeting philosophy dictates that the *Schwerpunkt* or main effort should be directed at a point of enemy weakness

or vulnerability, as in the 'King Theory' of chess¹¹⁸. It should not be directed at an enemy strength, unless that strength of course is vulnerable to attack. The teachings of Schlieffen had long been espoused by the German officer corps, and Hitler too was a strong proponent of his annihilation concept. Hitler also frequently quoted Clausewitz through the 1930s and 1940s. Although he was quite mindful of Clausewitz's work, the Fuehrer was probably guided more by Schlieffen's teaching and interpretation of Clausewitz, than by any of his own direct reading of Clausewitz's work. Central to the invasion plan, Case Yellow, was this Schlieffenian idea. Schlieffen preached encirclement, as at Cannae, and then annihilation. Another Wehrmacht General, Erich von Manstein, was about to unveil his own version of Cannae. The difference was that it focused on a weak link in the allied defenses. In 1940, with the advantage of mechanisation, strategic surprise was now possible. The foot slogging army of 1914 lacked this critical factor. Hitler though, was nervous about the capability of the Wehrmacht to successfully invade France yet was also anxious to continue his conquering streak. He was however clear about his immediate *operative* (operational) objective. That was to be the annihilation of major portions of the enemy forces¹¹⁹.

Strategically, it remains unclear what Hitler's intentions were once the enemy had been annihilated. Consequently the High Command were ordered to plan the invasion with a limited and unclear strategic endstate. They would be in possession of the channel coast. The Fuehrer wanted to bring Britain to her knees. Whether this would be achieved by bluff, by launching an assault from the coast with only the north-eastern section of France and Holland taken, or by first taking the rest of France was not known. The resulting plan was very general and seemed to lack a decisive main effort, trying instead to be strong everywhere. Once the invasion was underway Hitler would then determine where the main effort would be concentrated, based on the progress of the battle¹²⁰. It was broadly a westward attack, through Belgium, with a reinforced right wing, while the left wing covered the flank of the operation. The Wehrmacht were to destroy the allied centre of gravity, taking them head-on as they moved in to Belgium.

Later, through both General Erich von Manstein and Hitler, the idea of the 'sickle-cut' or *Sichelschnitt* type of attack emerged with a reinforced left wing. This effectively cut the allied forces in two and dislocated the troops that had moved into Belgium. Manstein was Chief of Staff for Army Group A, under General von Runstedt, and considered to be a brilliant operational planner. He had previously tried unsuccessfully to have his plan

adopted. A cynical and jealous German Army High Command (OKH), under the Commander in Chief of the Army, Brauchitsch, was not particularly enthusiastic. With a mindset based on more traditional solutions they were adverse to both the plan and its architect. At some point (after he had been transferred for being difficult), Manstein was successful in personally presenting the plan to Hitler¹²¹. It seems that Hitler too had proposed a similar concept of dividing the enemy forces. The idea was to invade France with a main effort focused not from Northern Belgium but from the centre, effectively at Sedan, after coming through the Ardennes forest, and continuing with a north-westerly wheel to the coast. In contrast to the High Command plan of a head-on attack, the new idea was more separation through encirclement and then, annihilation. Eventually OKH was persuaded to adopt this new concept but only after it was championed by Hitler¹²². The Ardennes was considered by the Allied commanders to be unsuitable for armoured vehicle movement. Closer inspection revealed that this was not the case and the English military writer, Liddell Hart, may have suggested this as a possible route for potential invasion while on visits to the area in 1928 and 1938. During the eight months prior to the actual invasion, a number of serendipitous events also occurred, including weather delays and the capture of a set of invasion plans by the Belgians. Two German officers in possession of the plan had, in bad weather landed in an aircraft across the border. The compromised plans were passed on to the French, which provided another reason to change to a new invasion plan and also added to the deception¹²³.

The final invasion plan essentially consisted of thrusts from three directions. Army Group B, consisting of 29 divisions (including three armoured) under General von Bock, would provide the deceptive, yet solid attack into northern Belgium and southern Holland. This is where the allies expected the attack to come and it would draw them into the deception, like a Matador's cloak, forcing the British and French to commit themselves¹²⁴. Army Group C, with 28 divisions under General von Leeb, would keep the French forces tied down in the south with feints along the Maginot line. Meanwhile the main effort would be spearheaded by an armoured thrust of General von Rundstedt's Army Group A, coming largely through the Ardennes Forest and continuing across the Meuse river. This was the most powerful group and contained 44 divisions, including seven armoured. Once across the river, the advance would swing out wide to the Channel coast, essentially cutting the allied forces in half. The allies that had advanced into Holland and Belgium would now be surrounded and could be annihilated, while the Germans took control of the coast facing England¹²⁵.

After the declaration of war against Germany, Britain instituted two main strategies. The first was 'economic warfare' using its powerful navy to blockade Germany¹²⁶. The second strategy was for Britain to build up its military strength for a number of possible eventualities. The most likely of those was an invasion of France, although an invasion of Britain itself was not ruled out¹²⁷.

By October 1939, the British had sent a significant number of ground forces and air assets to northern France. They were placed under the command of the French. The Maginot Line was considered impregnable yet a considerable number of French forces, Army Groups II and III, consisting of 103 divisions, were placed in the south and along the line to counter any possibility of an outflanking move through Switzerland. The low countries of Holland and Belgium were neutral, so integrating a comprehensive defensive plan with them was difficult from both a military and political perspective. They refused to cooperate¹²⁸. However the Franco-British plan that developed was predicated on the belief that the Germans would invade through Belgium and into Northern France. That plan, known as Plan 'D' or the 'Dyle Plan', was effected when the Germans did invade. The French Supreme Commander, General Gamelin, placed his strongest 51 divisions in the north. These were designated as Army Group I. The French 9th and 1st Armies, together with the British Expeditionary Force (BEF) would move into Belgium and deploy along the River Dyle. Not considered as a possible route for a main thrust, the Ardennes area was only defended with a weak and poorly trained force, the French Second Army. With the formidable Maginot Line in the south, the supposedly impenetrable Ardennes forest in the middle, and a continuous defensive line to the English Coast, it was believed by early May, that any invasion attempt would be doomed to failure¹²⁹. The lessons of the First World War had not been forgotten and the Allies were about to try to refight it. Unfortunately the allies had taken their lessons from the first half of the Great War, essentially the static phase. Such was the doctrine and experience that imbued the minds of both the British and French High Command in 1940, fundamentally underpinned by the dominance of the defensive. Consequently Plan D was based on static defensive lines. In contrast, the Germans were about to unleash an operation founded on lessons taken from the second half of the Great War. Those lessons had preached mobility¹³⁰.

On 10 May 1940, at 0500 hrs, the Wehrmacht attacked. As the invasion began the allies were initially confident, believing their defensive preparations were well above adequate. In reality they had been relatively inactive in the eight months leading up to the invasion.

Morale within the French Army was very low and the country was in a state of extreme political instability. Gamelin was aged in his late sixties and had his headquarters in an old castle without telephone links. Messages were dispatched by motorbike. Plan D was put into effect at 0730 hrs and the British Expeditionary Force of 10 divisions moved into Belgium¹³¹.

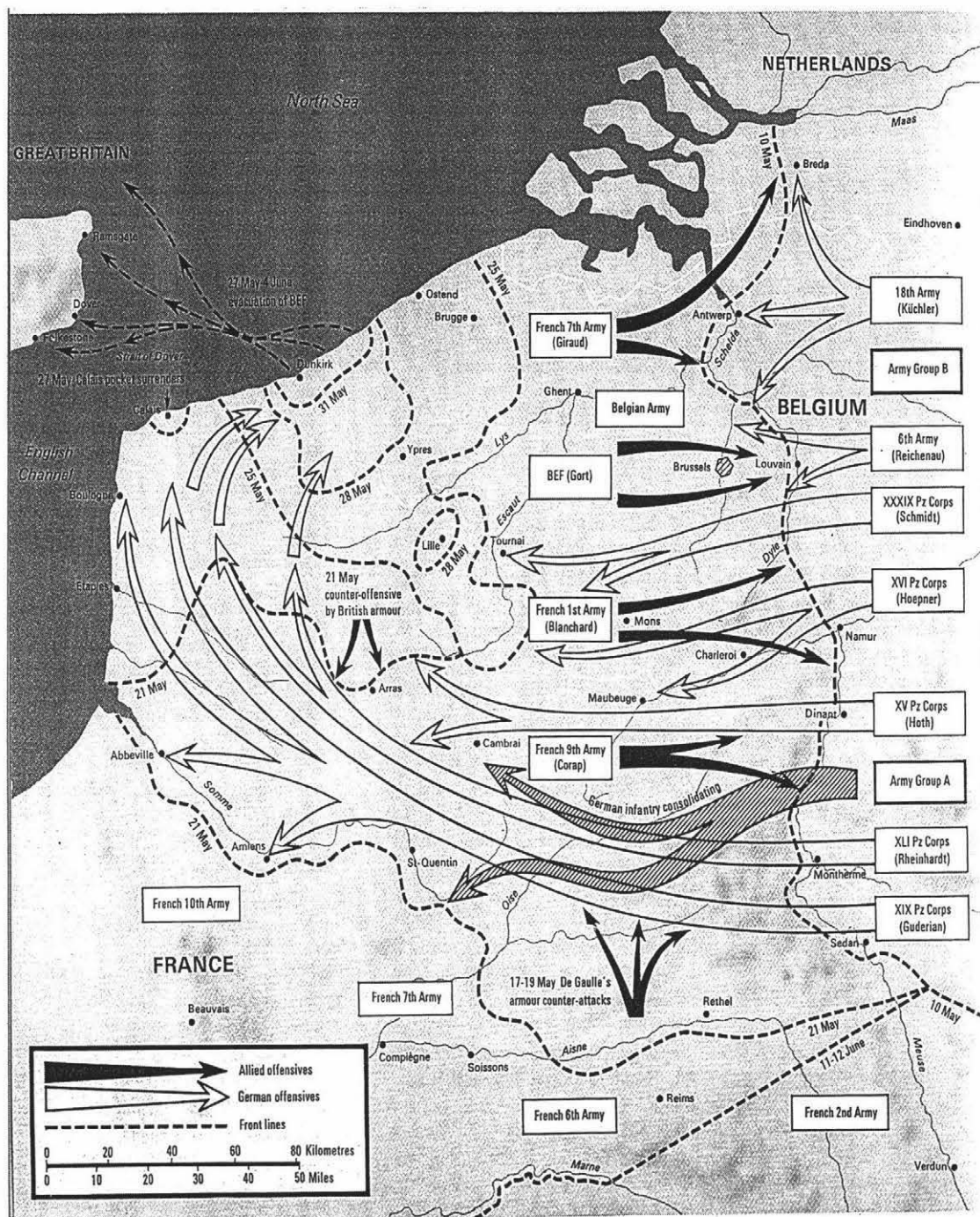
Deception and its offspring surprise, have been powerful force multipliers throughout the history of warfare. Deception at the strategic level is the most potent of all. At the heart of the battle of France was a brilliant strategic deception. In the beginning, it appeared that the Germans were coming through Belgium and in fact the 6th and 18th Armies of Army Group B were. While Army Group C made feints in the south, along the Maginot line, Army Group B was initiating a counterfeit main effort into Holland and Belgium. As ground troops crossed the border, paratroops were dropped into Holland to capture vital bridges and airfields. The Germans wished to take Holland quickly in order to deny the increasingly isolated allies a possible rallying area. Some early Dutch victories were gained in retaking the airfields and blowing some bridges. Despite this, the Dutch Army withdrew into 'Fortress Holland', their defensive triangle linking the fortress cities Rotterdam, Amsterdam, and The Hague¹³². Instructions had been given to German Bomber Group 54 to 'break the resistance in Rotterdam by all possible means'. Negotiations were already underway for surrender when the fortified city was attacked with devastating effect. The civilian population alone suffered some 900 fatalities in the unnecessary but 'legitimate' attack. Holland surrendered on 14 May, four days after the invasion began. The Belgian Army put up slightly better resistance despite the early capture of their great fortress at Eben Emael. German commando pioneers landed on the roof in gliders, in what was an ingenious use of tactical surprise ordered by Hitler himself. By 18 May, Antwerp was in German hands. The Dyle line too was being breached and soon became untenable. On 19 May, in desperation, Gamelin was replaced by a seventy-three year old, Wegand, as Commander in Chief¹³³.

There is an old saying that goes, 'hit 'em where they ain't'. The Ardennes is certainly where the allies weren't, having only a few second rate French divisions guarding that sector. It is, however, where the Wehrmacht were strong. The capacity to concentrate one's own forces, so as to be strong where the enemy are weak, has been a validated principle employed by masters of war, since time immemorial. The French remained unaware, or perhaps refused to believe, that this was the real direction of the main effort, literally until the advance units were nearly through the Ardennes¹³⁴. They had not prepared for this eventuality, nor were

they able to react and reorientate to it quickly enough. Stuka dive-bombers pounded the French defenses on the west bank of the Meuse River. On 13 May, the first German troops broke through the Meuse at Sedan. By 15 May, Guderian's XIX Panzer Corps was across and in the clear. Heated debate ensued between the 'old school' who wanted to wait for the infantry to catch up and regroup on the west bank before continuing on, and the 'progressives' who called for all speed ahead¹³⁵. Hitler became unusually cautious and very anxious about the exposed southern flank. Rundstedt, apparently on his own initiative but realising the Fuehrer's concerns, ordered a temporary halt. Through some creative interpretation of orders, Guderian's armoured spearhead continued the dash to the sea enveloping the allied force. OKH ordered that the armour wait for the infantry to catch up.

On 21 May, the British tried to break through the encirclement. Gort mustered two tank battalions, totaling 16 tanks and put in a limited counter-attack at Arras. Such was the effect that Rommel reported he was being attacked by five tank divisions¹³⁶. Without further support or reserves, the British attack could not continue. By 25 May the encirclement was complete and Hitler gave his halt order. The intended annihilation did not occur. Guderian suggested that the boggy ground was not good operating terrain for the tanks. Much armour had also been lost in the battle to date and the remainder would need to be conserved for the next phase. It is commonly accepted that Goering, seeking glory for himself, assured Hitler that the annihilation could be completed from the air, by the Luftwaffe alone¹³⁷. Despite the perseverance of this belief, no evidence exists of this exchange between Hitler and Goering. It is quite possibly a myth. The RAF provided good air cover over Dunkirk and the allies evacuated 340,000 troops¹³⁸. On 28 May, Belgium surrendered.

On the ground, the balance of military strength had actually favoured the allies. They had 3,380 tanks of good quality while the Germans had only 2,440 on A (Attack) day¹³⁹. The Wehrmacht successfully dislocated this advantage, both strategically and tactically - strategically by drawing the allies out of the line of the main effort, and tactically by the concentrated use of armour in deep thrusts¹⁴⁰. By contrast, French armoured tactics relied on the dispersed use of their armour in penny packets. In addition, the allies suffered from a lack of effective anti-tank weaponry. In the air, the Luftwaffe had a distinctive advantage, particularly in their tactical ground support aircraft. They consistently provided excellent close air support. The allies had no equivalent of the Ju-87 Stuka Dive-bomber and in general, the German fighter aircraft were of better quality. Germany had,



Map 3.1: The German Advance to the Sea

1,730 fighters as opposed to the allies figure of 1,590. In comparison of bombers, it was Germany with 2,220, against 700. Allied anti-aircraft weaponry was also poor. German communications were vastly superior to the allies, which added to their highly effective joint integration of ground and air forces at a tactical level¹⁴¹.

J.F.C. Fuller has written much of the seminal work on defeat through paralysing of the enemy's mental and moral forces¹⁴². This is now an essential concept defining manoeuvre theory, that is, the breaking of the enemy's will to fight, by destroying their cohesion. Generating chaos for the enemy to deal with is a highly effective way to sap their cohesion. Against the already testing background of the fog of war, it becomes devastating. It is highly improbable that the planning of Case Yellow deliberately targeted allied C3I (command, control, communications and intelligence). We know that the centre of gravity was originally identified as the allied fielded fighting force, as espoused by Clausewitzian theory. This philosophy was the rubric that had dominated German military thinking, from at least the time of von Moltke, the elder¹⁴³. However it is also true that from a very early stage in the battle for France confusion spread through the French troops as they were continually overrun or outflanked. At Sedan, French troops retreating in disarray were running into deeper French defensive lines, where they were mistaken for attacking German elements. This shows the degree of panic that then spread through the high command and as far as the leadership of the country. Churchill futilely tried to rally them but their loss of resolve was irreversible¹⁴⁴. In many ways they became their own worst enemy. The army, imbued with the 'Maginot Spirit' could not react to this fast-paced offensive warfare. Yet it was fast-paced almost by default, when contrasted against the inordinately slow and defensive French and British thinking and operating pace. It is true that there were still many proponents of the old styled, 'wait and regroup before moving on' thinking amongst the Wehrmacht. Even the 'champion of new thinking', Hitler, remained very concerned that the exposed southern flank would be attacked by the French. However, the theories of Guderian, who advocated speed and deep penetration as the solution¹⁴⁵, were being proven in the crucible of war.

Made anxious by his own success, Hitler over-estimated the fighting capability of the French Army at this point. In reality they had no strategic reserve left. Once the coast had been reached, against the Chief of General Staff, Halder's wishes, Hitler paused, waiting to regroup the armour and following infantry. This effectively divided the campaign into two phases¹⁴⁶. Much German armour had been lost up until this point yet the panic amongst the

French was such that they were not capable of putting up a coordinated resistance. OKH did not want this halt. They were in favour of exploiting the situation and continuing the pursuit of the French, while in the state of disruption. The pause allowed the French to prepare further defensive lines. More defensive lines were not however going to stop a highly mobile, armoured assault. The building of further defensive lines by the French as they fell back is a poignant illustration of the focus of their thinking. It was still based on First World War static, attritional warfare. They failed to adapt to the new mobile armoured warfare. Viewed from the tactical level, the critical mistake that the allies continued to make was to disperse their strength, in an attempt to hold a continuous front¹⁴⁷. By trying to be reasonably strong everywhere, they essentially thinned out, becoming weak in many places. During the First World War, infantry would assault on foot, after a preparatory artillery barrage at the chosen point of focus. This style of attack could be countered with a mobile 'defense in depth'. In contrast, the defensive fronts of 1940 were highly vulnerable to the speed of concentrated armoured attacks, which gave no fore-warning of their point of main effort¹⁴⁸.

The Battle of France was carried out in two phases. After the Channel Coast was reached in *Fall Gelb* (Case Yellow), orders for the second operation, *Fall Rot* (Case Red), were given on 31 May. This was the drive west to take the rest of France. Army Group B (von Bock) would break through the French Somme front, while Army Group A would break through the Aisne front. It is possible that the decision to do this was only undertaken by Hitler and the German High Command after their surprise at the swift collapse of the allied defense. The remaining French forces were encircled in the triangle Paris-Belfort-Metz, in what was essentially the Schlieffenian concept intended in his original 1905 plan. Halder wrote in his diary 'Cannae steps well to the fore'¹⁴⁹. Weygand organised the Allied defenders into a network of defensive *herissons* (hedgehogs). This idea, actually aided the advance as the tanks manoeuvred around them¹⁵⁰ and continued on. Guderian quickly reached the Swiss Frontier. Italy declared war on France on 10 June and after 17 June there was no longer any effective French resistance or defensive lines left. The French capitulated, signing the surrender documents in Marshall Foch's old 1918 rail carriage, on 22 June 1940.



Photo of a German PzKpfw III Tank in Luxembourg



Upper Photo shows a German PzKpfw II Tank moving through France

**Lower Photo shows a Storch observation aircraft above the Panzer corridor
(May 1940)**

The speed of the victory over the French had shocked many commanders in the Wehrmacht. They were not expecting another Polish campaign. Two key factors remain responsible for the rapid success. First, at a strategic level, Case Yellow contained a brilliant deception that carried off perfectly, drawing the strength of allies into a malevolent trap where they were cut off and encircled. The allied high command was unable to prepare for, comprehend, or even adjust to the unexpected change in direction of the main effort of the attack. While not the original plan as conceived in 1905, it became adapted and was successfully executed. Only the final full annihilation did not occur.

The second factor was the disparity in operating pace between the two sides. It was a contrast of the static defensive against the mobile offensive. The operating tempo of an army that repeatedly dropped back to disperse its forces behind a defensive line could never match the pace of fast armoured forces on a fluid battlefield. As an attacker, one's mindset is forced, almost by default, to think mobility, for an attacker cannot capture anything without movement. Undoubtedly this forced the Wehrmacht into a winning game against an enemy that had focused on the defensive lessons from the previous world war and that was led by elderly gentlemen. The ideas of the maverick, Guderian, soon proved their worth to the 'old school' thinkers within the Wehrmacht. Mechanisation allowed for rapid concentration of forces. Communications and the Close Air Support (C.A.S.) of the Luftwaffe added a third dimension.

If the French campaign is reviewed from the perspective of contemporary manoeuvre theory, the Germans must be credited with the effective concentration of their combat power at decisive points. With regard to their operating tempo, they were cycling much faster than their enemy which generated high levels of chaos¹⁵¹ for the allies. The Germans could therefore bring their combat power to strike at the enemy again and again, manipulating events on the battlefield in time and space. However, the targeting philosophy adopted by OKH was still Clausewitzian, with the enemy centre of gravity identified as their fighting forces and combat assets¹⁵². Case Yellow and Case Red were ultimately founded on the underlying Schlieffenian concept of encirclement and annihilation.

Chapter Four

THE BALKAN CAMPAIGN

&

THE BATTLE OF CRETE

The Balkan Campaign

At the end of the French campaign in 1940, Hitler had turned his eyes towards Russia. While he was doing that, the leader of his Axis partner, Mussolini, decided to invade Greece through Albania. Without informing Hitler, Il Duce ordered Italian forces to invade on 28 October 1940. After some initial success the incompetently led Italians were soon pushed back into Albania by the Greeks, who were more skilled at mountain fighting. The front eventually stabilized 30 miles inside Albania and Hitler, much perturbed by the disruption to his invasion plans for Russia, sought to intervene to rescue the Italians from defeat. The Balkans were strategically important for Germany. Apart from supplying natural resources for the German war machine, Hitler could not invade Russia while the possibility of a British invasion moving up through Greece and Yugoslavia existed. Churchill saw the region as the 'soft under-belly of Europe'¹⁵³ and Hitler feared that the RAF would be in striking range of the much needed Romanian oil fields if they set up bases in Greece.

German planning for an invasion of Greece began in November, 1940¹⁵⁴, and under pressure, on 25 March 1941, the Yugoslavian government signed a Tripartite pact with Germany and Italy. This action by the Croat dominated government agitated the Serbian population. Two days after the pact was signed, a *coup d'etat*, led by a Serb, Air Force General Richard Simovic, overthrew the government, placing King Peter on the throne. An incensed Hitler, poised to invade Greece, immediately ordered a simultaneous invasion of Yugoslavia, code named Operation 25. This was to open on Sunday 6 April, with an intense bombardment of

Belgrade, in retribution for their defiance. The objective, as stated by Hitler, was to annihilate Yugoslavia.

Without a doubt, the victories over Yugoslavia and Greece were rapid. Yugoslavia surrendered after eleven days and Greece after three weeks. The armed forces of the two vanquished countries proved no match for the Wehrmacht, equipped with the latest technology in armour and air power, and manned by battle hardened troops. This was also the first experience for the Wehrmacht in coalition warfare, although Germany did not expect much from her allies¹⁵⁵. The surrounding nations of Hungary, Romania, Bulgaria and Italy saw their opportunity to join in for some of the spoils from the vanquished.

Prior to the invasion, German forces had mobilised to concentration areas along the borders in the countries surrounding Yugoslavia and Greece. Apart from the sea borders, the defenders were strategically surrounded. The operation opened with the bombing of Belgrade and Yugoslavia was attacked from three sides. Further south the invasion cut into northern Greece, before moving down the country. The German 2nd Army and the Hungarian 3rd Army invaded Yugoslavia from the north, while the German 12th Army attacked further south, from Bulgaria on the eastern side. Any possibility of coordination between Greek and Yugoslavian forces was destroyed by the movement of the 12th Army as it bisected the two countries¹⁵⁶. While taking Southern Yugoslavia, the 12th Army simultaneously moved down through Greece, aided by the Italian 9th and 11th Armies which retook the lost ground in Albania. At the last moment the British attempted to augment the Greek defense. They already had a small RAF presence there but landed a further small expeditionary force at Salonika. This group tried to establish a defensive position along the Aliakmon line but ended up fighting a withdrawal all the way to the Southern end of Greece and another evacuation by sea.

It seems that by early 1941 the Wehrmacht had become sure of their ability to defeat an enemy quickly. Their recent lightning victories had filled them with such confidence, in fact, that they began dispensing with some fundamental operational considerations. Being surrounded by Axis friendly countries, Yugoslavia and Greece were in a precarious position. German forces had unlimited access into Italy, Hungary, Romania, and Bulgaria. This placed the Wehrmacht in a strong strategic position and gave them a multitude of possible staging areas and jumping off points from which to launch their invasion. Consequently this also

provided almost unlimited potential for deceptive feints. Probably only amphibious operations were excluded due to the Royal Navy's superiority in the Mediterranean. However despite these opportunities the final assault plans lacked critical strategic deception, so often described as a vital component of modern manoeuvre warfare doctrine and a critical element of many decisive victories throughout history. When faced with technically inferior enemies the Wehrmacht felt so confident of victory that they opted just to advance and run through them, in what at both the strategic and tactical levels were essentially 'good old fashion frontal assaults'.

The Greeks and Yugoslavians may have fared better had they coordinated plans for a defense and concentrated their forces. However, relations had not been close before the invasion and they ended up fighting separately, unaware of each other's plans. Despite an assurance of help from Great Britain, the Greeks refused aid, at least overtly before the invasion, to avoid aggravating relations with Germany. The Yugoslavians had also rejected plans for an alliance between themselves, Greece and Great Britain¹⁵⁷. Consequently, by the time Germany invaded there was no effective defensive plan in place to combat the modern armoured threat. The Greek plan centred around defensive lines at the top of the country to stop the Germans moving down from the north. They hoped that the mountainous terrain and poor roads would be unfavourable for the movement of tanks. The Greek East Macedonian Army manned the Metaxas defensive line. Further south lay the deeper 1st and 2nd Aliakmon lines, which were manned by both Greeks and the Allied Expeditionary Force. The Greek forces in Albania, the West Macedonian and Epirus Armies, were unwilling to withdraw and lose their captured ground to the Italians, preferring to wait until the Germans were in their rear¹⁵⁸. This weakened the Greek defence against the Germans.

On the Yugoslavian side, the army was large, with a million men in 28 infantry and three cavalry divisions, yet its doctrine was based on its experience from the First World War. It was ineffectively deployed for the defence of the country. General Simovic had decided to spread the troops thinly, both along the entire frontier line and throughout the country to defend the cities and vital regions. Unfortunately their dispersed strength was easily overcome. Much of their planning was also based on the assumption that the steep mountain passes, wide rivers and winding roads would offer good natural defences against armour.

While the Yugoslavian and Greek forces consisted of brave soldiers, their equipment was woefully inadequate for modern warfare. Both their militaries were First World War vintage and lacked anti-tank weaponry or modern communications. The Greek army was composed mainly of infantry units, was only partly motorised and lacked anti-tank, anti-aircraft, or other artillery¹⁵⁹. Much of the Yugoslavian equipment was of Czechoslovakian manufacture which precluded resupply or spare parts, due to their allegiance with Germany. In fact the Yugoslavian army did not begin full mobilization until 29 March, eight days before the German attack, and even then their mobility depended on 900,000 horses, oxen and mules. They were trying to defend one of the longest borders in Europe with ancient rifles and mule-borne artillery¹⁶⁰. Unfortunately they were about to face a modern mechanised army.

Two Wehrmacht armies, the 12th and the 2nd, consisting of a high proportion of armoured forces, were employed in the Balkans campaign¹⁶¹. The 2nd Army was composed of five corps while the 12th consisted of seven corps¹⁶². In air support of the armies were respectively Airfleet 4 and its subordinate unit, VIII Air Corps¹⁶³. The total Luftwaffe support numbered about 800 operational aircraft. These were closely integrated with the ground units¹⁶⁴. By comparison, the RAF force in Greece was only five squadrons strong, consisting of some 80 operational aircraft¹⁶⁵, while the Greek army had a total of 90 aircraft¹⁶⁶. Most of the Yugoslavian airforce was destroyed while it was still on the ground. The early achievement of air supremacy by the Luftwaffe provided a major strategic and operational advantage for the German forces involved in the Balkan Campaign.

The Luftwaffe opened the Balkans campaign with an intensive bombing of Belgrade in continuous waves for three days¹⁶⁷. Manoeuvre warfare is predicated on avoiding enemy strengths while targeting enemy weaknesses in order to bring about a defeat. When selecting the enemy centre of gravity, a manoeuvrist approach would target a weakness or critical vulnerability. The reasons for the decision to bomb Belgrade are interesting and reveal much about the mindset of the Wehrmacht planners.

It has been claimed that the Wehrmacht identified Belgrade as the Yugoslav centre of gravity because it contained the military headquarters. Its destruction would therefore disintegrate the Yugoslav command and control. On review, the balance of evidence supports a different motivation. The order came directly from the Fuehrer. His intent was not to dislocate or disrupt the Yugoslavian Command and Control but was to annihilate Belgrade as a punitive

action for the coup and Yugoslavia's failure to support Germany¹⁶⁸. In the wake of the bombing were estimates of up to 17,000 civilian fatalities¹⁶⁹. That result indicates the prosecution of a 'total war' philosophy, as proposed by Clausewitz, whereby the civilian population are also targeted, as had occurred in the Blitz bombing of London. At a strategic level, its aim is to break the will of the country. Historically this has usually had the opposite effect and hardened the resolve of the civilian population to resist. Hitler's aim appears to have been punitive. It was even called Operation Punishment¹⁷⁰ and focused on the destruction of the population. In actuality the whole Battle for Yugoslavia was motivated by a desire to destroy Yugoslavia as a state¹⁷¹ rather than the disruption or dislocation of the cohesion that held the armed force together.

In reality, Yugoslavia was a loose net of disparate ethnic groups on the verge of civil war. The real vulnerability of the armed forces lay with the internal conflict between the Slavic descended Serbians and the pro-German Croats. Eventually many Yugoslav units disintegrated with insubordination and open fighting broke out between the two factions during the campaign. The Croatian separatist movement declared the independence of Croatia, while mutinies occurred in the 1st and 7th Armies, and other Coastal divisions¹⁷². While it is said that the Wehrmacht actually worked on fueling this internal dissension¹⁷³, there is little evidence to support this assertion. This may have been a more effective centre of gravity to work on and would have avoided the commitment of so many German resources during the occupation years in an effort to combat the Partisan guerrilla movement.

The battle for Greece and Yugoslavia was actually conducted in a direct approach with the Germans possessing both superior firepower and manoeuvrability. The combination of firepower and manoeuvrability is sometimes described in manoeuvre terminology as momentum¹⁷⁴. It can be defined in the physical sense as being equal to mass times velocity. Richard Simpkin has described Soviet manoeuvre theory in these terms, in his book, *Deep Battle*.

This can be represented in the Physics of War by the equation:

$$\text{momentum} = \text{mass} \times \text{velocity}$$

or abbreviated to:

$$M = m \times v$$

Mass (m), is defined as weight of combat power, which is effectively firepower and armoured protection (battlefield survivability), added together.

Velocity (v), is the vectored speed or mobility in a particular direction.

Momentum, as defined above, is obviously a good attribute to have on the battlefield. Manoeuvre theory teaches that greater velocity, or speed on the battlefield, should be used to 'out-manoeuver' an enemy. The emphasis is on the manoeuvre component instead of the firepower component. Dislocation and sometimes preemption of the enemy occurs by these means. One important principle of manoeuvre theory is the emphasis on the 'operational level' of war. By being mindful of the required operational level aim, it may be that some battles are not necessary and can sometimes be avoided. The desired 'big picture' endstate may negate the need to win certain individual battles. This can be achieved by out-manoeuvering, and hence dislocating, certain enemy elements in order to avoid the battles that do not directly contribute to the intended operational goal. If the emphasis is on the firepower component, to the detriment of the manoeuvre component, then the chances are that the most direct route will be taken, often resulting in a battle of attrition, with God usually being on the side of the bigger guns. This temptation was too much for the Wehrmacht. One writer claims: 'A sledgehammer had been used to crack a nut'.¹⁷⁵

On 10 April, the German 2nd Army began its attack in the north of Yugoslavia. The four Yugoslavian army corps were quickly forced back as the Germans, Hungarians and Italians attacked from their respective countries and through Romania. Stiff resistance was offered by the Yugoslavians but they were unable to hold out for very long against massed armour and air attack¹⁷⁶. Where resistance was met, as with Kleist's 2nd Armoured Division on the road to Nis¹⁷⁷ it was overcome, not by use of manoeuvre to outflank, but by weight of combat power. Yugoslav resistance in the north had been weakened by the rapid advance of the German XXXX Motorized Army Corps in the south. As the northern Yugoslavian armies buckled under the weight of the German onslaught, the major cities and towns were taken. Zagreb was taken on 10 April and a separate Croatian state declared¹⁷⁸. Karlova, Mitrovica and Nis fell within the first few days. The Yugoslavian units that had been defending Belgrade withdrew to the Serbian and Bosnian mountains allowing Kleist's Armoured Group

One to occupy the capital without a fight on 13 April¹⁷⁹. Sarajevo was taken from two directions on 15 April and the advance reached the Adriatic in another two days. All major resistance had now been overcome. Many Wehrmacht units were now redirected back to the east in preparation for the Russian campaign. The surrender document was signed in Belgrade on 17 April.

As the rapid collapse of Yugoslavia was occurring in the north, in the south the operations of the 12th Army on Greece and Southern Yugoslavia were continuing. Intense air and artillery bombardment, along with anti-aircraft fire (88mm.), was directed at the Metaxis line, opening the invasion on 6 April¹⁸⁰. Despite this, elements of XVIII Mountain Corps only managed to penetrate the Greek defences at a few points. With fierce support fire and at the cost of considerable casualties, the 5th Mountain Division was able to negotiate the Rupel Pass and move south to Salonika. Bitter fighting continued for the 72nd Division, which took a direct approach at the Metaxis Line and eventually broke through. However they continued to fight only a slow advance against determined Greek resistance¹⁸¹. News of the rapid Yugoslav collapse did little to bolster Greek and Allied morale and it soon became evident the Allies would be fighting another withdrawal and evacuation¹⁸². In the north of Greece, the defence was breaking yet the Greeks were unwilling to withdraw from Albania. Here, Greek pride was in fact a potential centre of gravity for the Germans and Italians to exploit. Had the Italians in Albania deliberately dropped further back, they may have been able to draw many more Greek forces out of the fight in their homeland. A Soviet style 'firesack'¹⁸³ could then have been created by feigning an area of Italian weakness, into which the Greeks could have been drawn. This would in many ways be similar to the German 'elastic defence-in-depth' of the First World War¹⁸⁴. This action would have enabled the Wehrmacht forces left in Greece to advance with less resistance. However, the Wehrmacht did not take that course of action, preferring instead to advance in a direct path toward southern Greece. Indeed the question has been asked as to why the German forces in this situation often choose to fight an attritional battle at high cost, particularly in defensive zones that could have been outflanked. One possible answer is that they underestimated the durability of the Greek fortifications to air attack¹⁸⁵. This seems to illustrate the point that a force overwhelmingly more powerful than its enemy will often rely on its superior firepower and take the direct approach.

As the fighting withdrawal continued, the Greek divisions began to disintegrate. The New Zealand Division covered the vital mountain pass to the north of Mt. Olympus, holding out

against strong German attacks by XXXX Motorized Corps¹⁸⁶. Of utmost importance to Hitler was the encirclement and annihilation of the Allied force before they could get away¹⁸⁷. Despite numerous air attacks by the VII Air Corps, they failed to even disrupt the movements of the Anzac troops, let alone destroy them¹⁸⁸. On 16 April, another defensive position was established at Thermopylae to hold back the German advance as long as possible while the evacuation commenced¹⁸⁹. A breakthrough at Molos was attempted by 5th Armoured Division. Despite heavy use of mixed formations consisting of armour, infantry and mountain troops, determined fighting by the New Zealanders and Australians allowed most of the expeditionary force embark and evacuate. On 24 April the Germans had managed to push the Anzacs down to the southern end of Thermopylae Pass. At this point, Wehrmacht forces attempted to use their superior manoeuvre advantage in a large scale out-flanking move via Euboea. By sending 'fast groups' out to the east and then back in, the intention was to cut the retreat routes of the Anzacs. These, however, failed as the main Anzac force had already made its way to the evacuation areas on the coast¹⁹⁰. Use of Luftwaffe Airborne troops to encircle the Allies at Peloponnese also failed, leading to heavy German casualties even though the Allies were only defending the isthmus with two weak battalions¹⁹¹. Earlier attacks by dive-bombers did destroy the anti-aircraft defences but the attempt to capture the Corinth bridge over the canal, by German Paratroops, failed when the bridge was blown-up by Anzacs at the last moment. In summary, the British Empire troops were able to effect a reasonably successful evacuation, largely by determined defensive fighting and their ability to dislocate German air superiority by embarking and evacuating during the hours of darkness.

The campaign in the Balkans was characterised by a rapid German success due to overwhelming combat power, deployed by battle hardened troops, against enemies that were equipped with antiquated weaponry and ill-prepared to fight a modern mechanised war. Although the terrain was not ideal for armoured warfare, the immediate air superiority gained and held by the Luftwaffe conferred a major advantage on the Axis forces. By close integration of their land and air assets, the Wehrmacht were able to deliver considerable joint force firepower to points of enemy strength. The Yugoslav and Allied forces were fighting an uncoordinated battle, without anti-tank weaponry, with limited anti-aircraft assets and a ten fold inferiority in aircraft. With this imbalanced ledger they were attempting to defend a strategically surrounded, vast border against a modern joint air/armoured force. Despite this overwhelming force advantage or perhaps because of it, there is little evidence of a planned



Map 4.1: The Invasion of Greece and Southern Yugoslavia

manoeuvrist approach being applied by the Wehrmacht forces in this 'Blitzkrieg' campaign. Certainly the defeat was fast, but could it have been any different? The Yugoslav's did disintegrate although much of this was generated from within their own forces. The Greek defence was stronger but eventually folded. There seems however, little evidence that the means of defeat was through pre-emption or dislocation. The Wehrmacht of the Second World War are revered today and often imitated as the fore-fathers of modern manoeuvre theory. If they are to be studied and imitated as 'manoeuvrists', it could be expected that their combat history would show some evidence of the fundamental components of manoeuvre theory. Some may argue that 'disruption' did occur, but this was really a consequence of the disintegration of the fighting forces, once their fighting assets (men and equipment), had been attrited below a certain level in battle. Where the Wehrmacht was confronted by the enemy, they chose to use superior combat power in a very 'direct approach'. Even with its superiority in modern technology this did not always work, as in Thermoplae and Kalamata, when matched against determined Anzac resistance. Additionally, there seems to be very little evidence throughout the campaign, of the German forces avoiding battle at a tactical level in order to win the campaign at an operational level. In nearly all cases, where the enemy was encountered, it was joined in battle. In the Balkan campaign, the Wehrmacht were faced with an inferior enemy in every respect. In response, it did nothing new, nothing doctrinally innovative, instead opting to destroy a weaker enemy by meeting it 'head on' in a direct manner, as countless armies have done throughout the history of warfare. It was a victory for superior firepower.

The Battle of Crete

Although the battle for the island of Crete was eventually successful for the Germans, it resulted in the greatest number of casualties of any airborne operation conducted by the Wehrmacht. After Operation *Merkur* (Mercury), Hitler lost his confidence in the ability to take the Suez Canal or Malta by similar means and no further large-scale airborne operations were attempted again¹⁹². Crete was considered a vital strategic base in the Mediterranean because of the control it offered over the shipping lanes to North Africa and the proximity to Egypt for Luftwaffe strikes. Debate over whether Malta or Crete should be taken first was solved when the commander of the Luftwaffe *Fallschirmjaeger* (German airborne forces), General Kurt Student, concluded that the Creten terrain was more accessible for gliders¹⁹³. The Royal Navy had control over the Mediterranean Sea around Crete but the RAF only had seven aircraft based in Crete, all of which flew to Egypt on the day of the invasion. Right from the beginning of *Merkur*, the Luftwaffe held unchallenged local air supremacy. With well over 500 strike aircraft alone, including fighters, dive-bombers and medium bombers they restricted British shipping to night resupply only and controlled the skies¹⁹⁴. The British had good intelligence on the forthcoming operation due to their code-breaking ability, although they incorrectly deduced that the invasion would also have a sizable amphibious component¹⁹⁵.

By the date of the attack, the New Zealand commander, General Sir Bernard Freyberg, who was charged with the defence of Crete, was cautiously optimistic about the defensive measures in place. The defenders, known as Creforce, numbered 42,000, while the German assault force was combat powerful but significantly inferior in numbers. Crete is basically a 170mile-long, thin island, covered in mountains and was very difficult to defend. Its defence was founded on reinforced localities, set up at possible invasion points¹⁹⁶.

Airfleet 4 in Vienna, under Luftwaffe General Lohr, had overall responsibility for planning and execution of the operation¹⁹⁷. There were three airstrips on Crete; Maleme and Retimo (Rethimno) in the west, and further east, Heraklion (Iraklion). The airfields were considered to be the keys to capturing Crete. The capital of Crete, Khania, and Soudha Bay were also to the west, and a coast road running the length of the northern side of the island, connected the

capital and three airfields. The assault would be aimed at the northern side of the island. During the planning, two options were considered. The first was a simultaneous attack on all four strategic points simultaneously and by surprise. The second was to take Maleme and Khania in the west, regroup, and then attack in an easterly direction, capturing the rest of the island. The final plan was a synthesis of the two options¹⁹⁸.

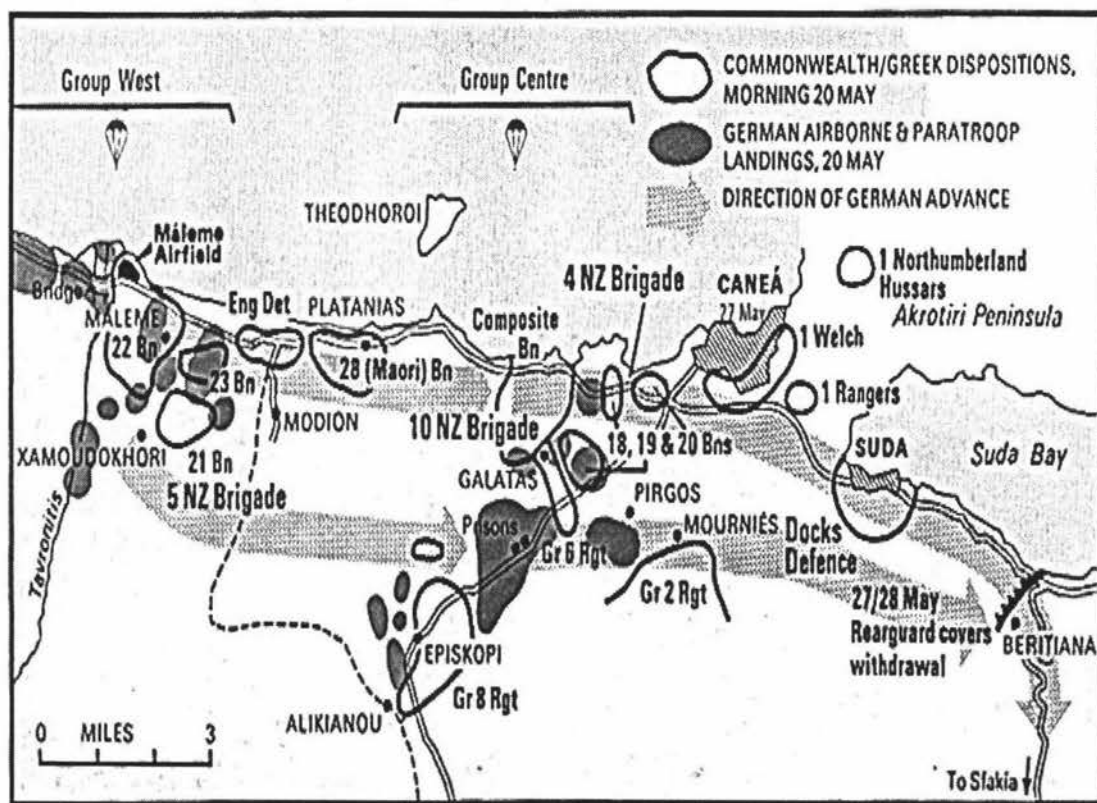
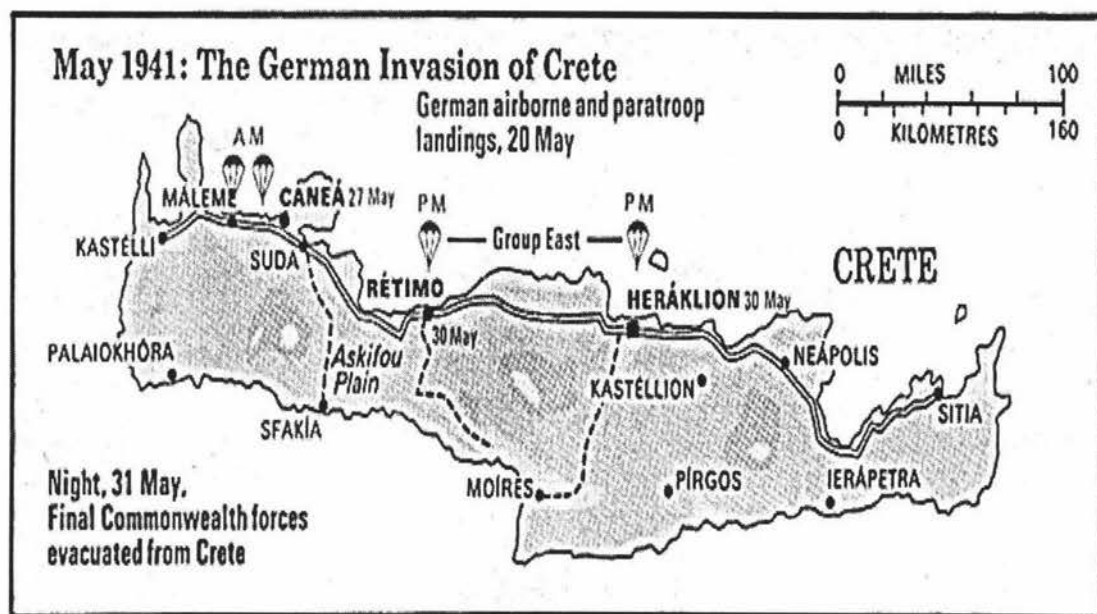
20 May 1941, the operation opened with a preparatory concentrated air attack on the Creforce units around Khania¹⁹⁹. Three invasion groups, consisting of both paratroops and glider-borne troops, were launched in two waves. In the morning the first wave, Group West, assaulted Maleme and Khania while the second wave, consisting of Groups Centre and East, attacked Retimo and Heraklion in the afternoon. Extremely heavy casualties were suffered by the German invaders, with some units being attrited to below half their strength²⁰⁰. Tactically, the Wehrmacht glider-borne and airborne troops were basically thrown at these strategic points in an attempt to overwhelm the defended positions, considered critical to the operation²⁰¹. The defending allied units, consisting of New Zealanders, Australians, British, Greeks, and Cretens offered stiff resistance and the battle was held in the balance for the first few days. Critically, and unfortunately for the allies through a misinterpretation of the situation, a corner of the airfield at Maleme was taken, which allowed the Luftwaffe to land some much needed reinforcements²⁰². Additionally, and in spite of heavy losses to Royal Naval ships, the Germans eventually managed to land some reinforcements by sea at Soudha Bay.

German losses were so high that a request was put to Mussolini for Italian assistance, which landed by sea near Sitea in the eastern sector, on 28 May. This regiment sized Italian group was reinforced with much needed armour and artillery²⁰³. With the eventual capture of the strategic points and the subsequent reinforcement of the invasion force, Freyberg decided the battle was lost on 26 May. The Allies ended up fighting yet another retreat, working their way to the south-side and east-end of the island, followed by night evacuations from 28 May – 1 June.

Strategically, the vitality of Crete must be questioned. Supply problems to North Africa were not alleviated by its capture and in fact, more pressure was created by the supply requirements of the occupation force²⁰⁴. When analysing the campaign from a doctrinal viewpoint it is difficult not to assess the campaign as a massed assault of firepower.

Although the German invasion force was numerically inferior to the defenders, they did have overwhelming air supremacy. Creforce was, itself, not heavily armed, with regards to armour and artillery. It was mainly equipped with small arms and had just two outdated I tanks, commanded by Lieutenant Roy Farran. Operationally, the element of surprise was lost due to British intelligence. Hence there was no preemption in the operation although it was intended. The question must be asked as to why, given the ever-present possibility that surprise could have been compromised, a deception attack was not put in? Wehrmacht planning underestimated allied strength and seemed to rely solely on the effect of surprise. The strategic points targeted, in particular the airfields, were perhaps strictly speaking vulnerabilities, although their heavy defence by Creforce elements probably turned them into strengths. Certainly their capture necessitated much attritional fighting. While the gaining of the airfields did not so much dislocate Allied strength, it did greatly add to German strength by enabling access for resupply and reinforcement flights. Equally, there appears no evidence of attempts to directly cause disruption by hitting allied command and control areas, apart from the preparatory bombing raid carried out just before the first wave of the assault. This did a reasonable amount of damage to the communications links but was not effective in paralysing the allied fighting capability²⁰⁵. One key advantage Airborne forces have is their potential to land in a deep strike capacity in enemy rear areas. An often stated tenet of Blitzkrieg theory is the supposed paralysation of the enemy, through disruption of its command and control²⁰⁶. Here was a potential opportunity for an airborne element to strike Allied Command and Control, yet it was not targeted. The focus was on taking the airfields and consequently the island itself. At a tactical level, the attritional fighting required to capture those centres of gravity, resulted in the parallel destruction of the allied fighting forces, although it would appear that this was not the primary focus. Operationally, the Luftwaffe strike aircraft denied the allies their strength, at least during daylight hours, by dislocating the Naval support, although this was not attained exclusively.

Overall the battle of Crete was essentially a battle of combat power thrown at an enemy centre of gravity. It did, however, contain elements of manoeuvre warfare. Strategically, the island was, for all intents and purpose, a critical vulnerability, in the Mediterranean theatre. In effect, there was little or no preemption, dislocation, or disruption, save the last stages of attritional battles which always contain a degree of disruption due to casualties to Senior NCOs, officers, and unit infrastructure. Refreshingly, at an operational level, there was not the usual Prusso-German focus on destruction of the enemy fighting assets, at least overtly



Map 4.2: The Invasion of Crete

The strategic value of the island meant that the main effort was the airfields and island itself. This however did not translate into any demonstration of manoeuvre warfare at a tactical level. Operation *Merkur* was innovative in that it used a relatively new method for getting troops onto a battlefield on a large scale. That said, the operational planning and execution was rather unimaginative. The scale of casualties must attest to this.

Chapter Five

THE NORTH AFRICAN CAMPAIGN

For thousands of years the desert has proved to be an arid battleground for man, with a surface unlikely to provide him favourable terrain advantages in any conflict. Usually he has avoided its harsh and unforgiving terrain but when he has chosen to fight there, victory has often gone to the side with the greater numbers. As an exception to this, in the seventh century, a band of Bedouins opened the desert to the Arab Empire by defeating a vastly larger army of Persian soldiers aided by the fortunate occurrence of a sand-storm. The German-Italian forces in the desert during the Second World War, who were also eventually outnumbered, were unable to repeat this victory. The desert battles of that war, particularly, the manoeuvrings of the legendary Erwin Rommel, are often celebrated in modern military writing as having all the elements of quintessential manoeuvre warfare. In many ways, though, the campaign was won by the force that could out-sustain the battle losses inflicted on them by the enemy. During those battles victory was gained by the side that could absorb the most damage and emerge with the stronger fighting force. Ironically it was a victory in the huge battle of attrition at El Alamein that marked the turning point for the British not only in the Western Desert but also for the whole war.

By the 1940s, after 150 years of naval presence in the Mediterranean, the British had an army based in Egypt to protect the Suez Canal. While the Germans were preparing to launch the Russian invasion, an Italian force from Libya, under Marshall Graziani, led an offensive which ended 60 miles inside Egypt. On 9 December 1940, a counter-offensive was launched by the British Commander in Chief in Egypt, General Wavell. Initially intended as just 'a five day raid', the force of 63,000 was matched against 200,000 Italians²⁰⁷. However, the counter-thrust gained so much momentum under the tactical command of Lieutenant-General O'Connor that by February 1941, the British had covered 400 miles and captured 130,000 Italian prisoners. The 'raid turned offensive' stopped at El Agheila after the whole of the land mass of Cyrenaica, in Eastern Libya, was back in British hands²⁰⁸. Previously rejected German aid was now required by the Italians.

From a grand strategic point of view, the German High Command believed that the Russian campaign would decide the war and, consequently, held top in their planning²⁰⁹. Some German generals, notably Rommel, believed that if the fighting in North Africa could be decided in their favour then a commitment in the Balkans would be unnecessary²¹⁰. It appears that neither Hitler nor the general staff of the High Command took the North African theatre very seriously and considered the loss of Libya militarily bearable²¹¹. At times there had been various plans proposed to gain a dominant position in the Mediterranean in order to block the supply lines to Russia from the United States and also to capture the oil fields in Iraq, Persia and Syria. These plans had included an airborne assault on the strategically vital point, Malta, and the invasion of Egypt to secure the Suez Canal²¹². However, Russia dominated the thinking of both Hitler and the High Command. At a High Command level, resources were allocated to North Africa in order to placate Mussolini and lend moral support to the Italians to prevent them changing sides. For the German High Command, North Africa originally was never much more than a sideshow. At a strategic level, whether by design or good fortune, it was the first example of the British moulding German strategic direction. Whatever the end strategic goal was for the Wehrmacht, it provided the only theatre for the British to draw off German fighting assets after their defeat in France. As with the Balkans Campaign, the Germans were drawn in as a result of the Italian disaster. From the British strategic perspective, A.J.P. Taylor has said that they fought the Allies in Africa because they were there and because there was nowhere else for them to fight²¹³.

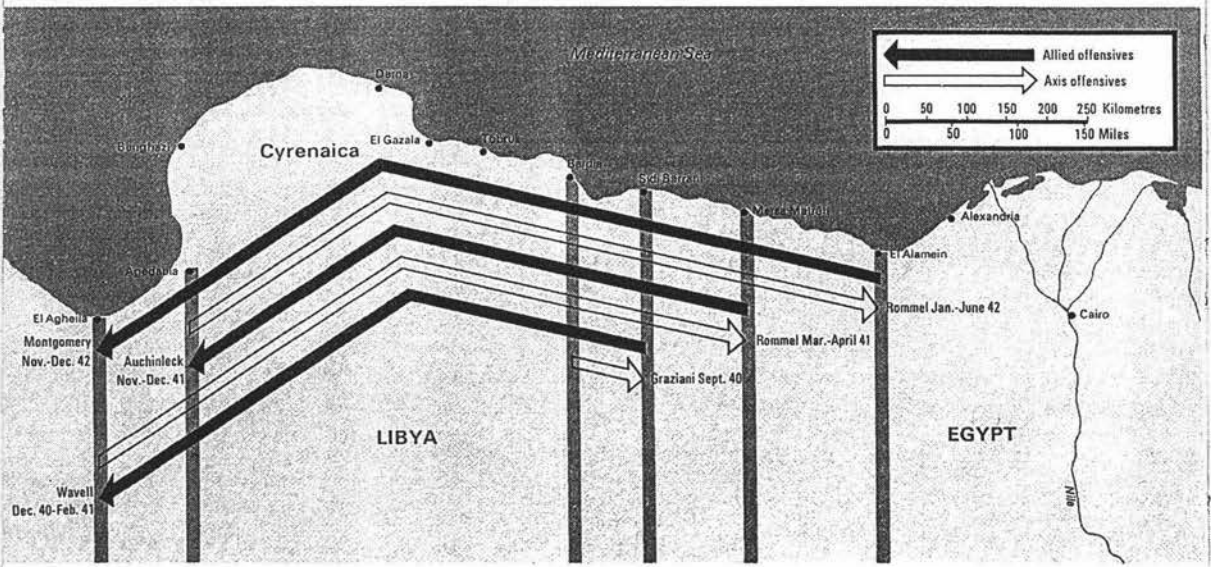
Unique in its nature, desert warfare has been compared to naval engagements. Once the enemy force has been defeated, the victors have the run of the land. They are only limited by their own speed and logistic capabilities²¹⁴. In Libya and Egypt, the campaign essentially consisted of a running battle that went up and down a strip of coastal desert which was only 40-mile across at its widest point. Despite what the High Command thought, Rommel's operational intention was to campaign eastward, all the way back through Libya and Egypt, to capture the Suez Canal, the oil fields, and provide a base for the attack on the Soviet Union²¹⁵. Tactically, this required defeating the enemy armour and capturing of the vital port towns along the coast to enable the conquering force to be resupplied so they could continue the battle. Over-extended supply lines were eventually to be a major problem for Rommel's Afrika Korps.

After the rapid Italian defeat and the British capture of Cyrenaica, the first intention of the German High Command was to send Luftwaffe support and a blocking force to prevent the capture of Tripoli, the capital of Libya²¹⁶. Another British offensive was expected and Operation *Sonnenblume* (Sunflower) was to be a defensive battle. On 12 February 1941, Rommel arrived in Africa to prepare for the arrival of his *Wermacht Afrika Korps*, which consisted of two divisions, the 5th Light Division and the 15th Panzer Division. It is interesting to note that for the entirety of the campaign, apart from the last two weeks, Rommel was formally, though seldom in practice, subordinate to the Italian theatre commander. That arrangement did not prevent him acting largely on his own initiative.

With a keen sense of urgency, Rommel personally supervised the unloading of his force at Tripoli. Within 48 hours of arriving, the vanguard of the 5th Light Division was deployed 280 miles east of Tripoli, and already in contact with the British. Rommel was very concerned with rapidly getting as strong a presence as possible in front of the enemy. Believing incorrectly that the British had a vastly superior strength, he immediately employed a campaign of deception by having dummy tanks made up and positioned. British units were, in fact, by this time being transferred to Greece and they only had one armoured brigade in Cyrenaica. Time is everything in war and Rommel was 'filling the unforgiving minute with sixty seconds of distance run'. Wavell and his staff had overestimated the time that it would take the *Afrika Korps* to launch any kind of offensive. On 24 February 1941, the first contact with the enemy occurred, and a British reconnaissance patrol was captured. Rommel was starting to get the feeling that the enemy was in a weakened position²¹⁷. He began his campaign using rapid probing tactics and on 24 March he took El Agheila unopposed. As his main armoured force, the 15th Panzer Division, was not due to arrive until May he was very strongly advised from higher command not to take any further offensive action until then²¹⁸. Believing that this inaction would give the British more time to prepare defences, and with an opportunist's *coup d'oeil*, or 'blow of the eye', he attacked and captured Mersa El Brega with an out-flanking move overcoming stubborn resistance. On 2 April, the main force was launched in a movement that would recapture the whole of Cyrenaica within a few days. The force was split into two, with one element moving around the coast and the other force cutting a chord straight across the desert to meet up with the coastal group at Tobruk. Further armoured elements moved on the ground between the two outer pincers. By 6 April, the British troops were trying to get back to Tobruk. At a tactical level, because both the *Afrika Korps* forces and the forces of the British 3rd Armoured Brigade were dispersed throughout

the area of operations, battles took place in small groupings of men and tanks, wherever they made contact with one another. Some of Rommel's Intelligence staff even described their campaign as 'under uncertain leadership, without proper coordination, receiving constantly changing orders and objectives'²¹⁹. This may have been the impression held by some subordinates as, by its very nature, desert warfare does provide the potential for very fluid and unstructured battles. Whether or not Rommel's battlefield handling was Wehrmacht 'textbook', it certainly was manoeuvrist. Many Wehrmacht commanders, perhaps even the majority, would have conducted their generalship differently. It is likely that a more rigid, even 'Montgomery-style' approach, consisting of a staged series of deliberate and considered moves would have occurred. Rommel was less structured. Tempo has a close relationship to manoeuvre. With Tempo, Manoeuvre, and Focus being the three vital parts of the manoeuvre warfare triangle, Rommel seems to have sacrificed extensive and detailed planning, in order to secure the advantages that come with having a faster tempo cycling rate. His reflections in *'The Rommel Papers'* attest to his feeling on the need for instant decision once the move has been 'seen'²²⁰. No one could accuse Rommel of failing to *Observe, Orientate, Decide* and *Act* quickly; the four processes of the contemporary OODA loop model. With that superior tempo came a rapidly changing set of circumstances on the battlefield that may not have lent themselves to an overly detailed plan with multiple permutations, or 'branches'. It would be wrong to say that he didn't plan. He did, but it was always highly flexible and often in outline^{221, 222}.

The German-Italian forces had been unable to cut off the Allied forces in retreat. Tobruk was a heavily fortified seaport, considered by both sides to be a vital strategic point for resupply. The 9th Australian Division fought a tough defensive battle there that the Afrika Korps was unable to break. From 14 April Rommel tried repeatedly, at heavy cost, to take Tobruk. Alas, it was to remain besieged as an isolated garrison, until it was lost while being held by a South African Division during Rommel's next offensive. Rommel has been heavily criticised, and nowhere else more than in the respected Official German War History, for losing a lot of men and resources while attempting the capture of the port²²³. Tobruk was definitely an enemy strength and not a vulnerability. Its capture would have been extraordinarily beneficial for the German-Italian effort in shortening their supply lines. 1500 tons of replenishments were required daily by the forward forces, bypassing around British-held Tobruk on long supply lines²²⁴. Yet such criticism is hard to reconcile in the face of such battles as Leningrad and Stalingrad. Rommel's approach at Tobruk was after all, in keeping



Map 5.1: The Surge and Counter-surge Battles in North Africa
 (Photo shows British troops at Alam el Halfa)

with the Wehrmacht way of war that endeavoured to defeat any enemy strength by throwing a greater weight of firepower at it.

It is clear that Rommel didn't overplan. But did he underplan? In a sense, he either gambled or took calculated risks. All boldness brings with it risk and, for Rommel in his first offensive, it paid off. He had started out with just a reconnaissance raid and it had developed into a full-blown offensive once he had seen the opportunity. It could be well argued that his boldness in this first offensive was not rash but was prudent. The rapid recapture of Cyrenaica proved it to be worth the risk. It indeed also had many vital components of manoeuvre warfare. Although the offensive could not take Tobruk, it did take advantage of the enemy weakness in Cyrenaica once it was recognised. Rommel had also preempted the enemy by launching an offensive much faster than had previously been thought possible. He dislocated them with his superior operating tempo and speed across the battlefield. However, his targeting philosophy was still Clausewitzian; he defined their centre of gravity as their fighting force, primarily its men and machines. This was a weakness relative to his force, and he targeted it with considerable success.

After Rommel concluded that his force could not immediately take Tobruk, he established a 'line of circumvallation' further east on the Egyptian frontier; a blocking line that would prevent a relieving British force striking out to Tobruk. On 15 May 1941, Wavell began Operation Brevity to try and reach Tobruk. Fighting on the Sollum front gained some initial success but then evolved into a retreat. A beefed up version, Operation Battleaxe, after three days had a similar result. Large numbers of British tanks were being destroyed by the new German tactic of using their deadly 88mm anti-aircraft guns in an anti-armour capacity. These became incorporated into standard German operating procedures²²⁵. They would lure the enemy armour forward into a screen of the anti-tank guns and preserve their tanks for offensive operations. Churchill lost faith and replaced Wavell with Auchinleck. The new commander of the British 8th Army's counter-offensive, Operation Crusader, began in November and, after some very confused fighting during which Rommel was almost captured, Tobruk was relieved. The German-Italian force retreated all the way out of Cyrenaica and escaped being cut off by the British force.

Lieutenant-General Fritz Bayerlein, the Afrika Korps Chief of Staff, has said that desert warfare is all about flux and constant change. Everything is always in motion, commanders

must adapt continually, reorientating daily, even hourly; they must never act on fixed patterns, they must remain versatile and maintain their freedom of movement. In the open space that offers no obstacles to movement, victory is often only a matter of speed of decision and speed of action²²⁶. The second round of fighting for Rommel started in January 1942. It would teach the vital importance of concentration of force, if not in space then in time. A commander able to envisage his force dispositions in the dimension of time can then use this ancient principle of warfare to maximum effect: to bring a superior force to bear at a vital point in the enemy's disposition, where he is weaker. This quality, focus, makes up the third component of the 'manoeuvre warfare triangle'. Rommel concentrated his forces; the British dispersed theirs and threw their armour into battle piece-meal²²⁷. As with naval engagements, when there is nowhere to hide, it is concentrated firepower that counts. The British eventually lost that round.

There was one particular aspect of the fighting in the desert that did not conform to the usual Wehrmacht style, that is, to the normal *Kesselschlacht* battles of encirclement and annihilation. Rommel believed that encirclement in desert warfare was not prudent unless the surrounded troops were non-mechanised, under defective leadership, or broken, physically or psychologically. In an open desert it was too easy to assess the encircling force and mount a concentrated breakthrough at a weak point in the ring²²⁸. The majority of the tactics employed were traditional outflanking hooks, single envelopment's into retreating lines, or just concentrated attacks on enemy centres of gravity. Offensively, armoured technology lent itself perfectly to these mobile tactics required in the desert warfare. Defensively, the Germans evolved the use of the 88mm dual purpose gun to deadly effect against enemy armour. In both cases their targeted centre of gravity was the enemy's fighting assets. In their previous campaigns in Poland and France the Germans had largely walked over their enemy by employing armour in a war of movement against troops trying to fight static positional war.

Cyrenaica was retaken through a series of outflanking and enveloping hooks, although slower than expected movement prevented encirclement of the enemy, allowing the majority of their personnel to escape. Concentric panzer attacks destroyed much of the British armour²²⁹. Serious supply issues dogged the German-Italian forces but they were eventually able to retake Tobruk and fight all the way back to El Alamein. Here the fighting burnt itself out at the end of July. The Germans had only 13 operational tanks left and had reached their

culminating point. At that point they were living off captured British supplies. El Alamein was the last stop before Alexandria in Egypt, and only sixty miles from it. Churchill fired Auchinleck and appointed the eccentric Montgomery to lead the defence of El Alamein. Montgomery was now able to build up a marked superiority in materiel for his own forces, train them, and then absorb all that the battle worn Afrika Korps, and their commander Rommel who was now ill, could give. He developed a detailed strategic plan, filled the British 8th Army with 'binge', his word for fighting spirit, and took the honours²³⁰.

Rommel tried to preempt the British build up, by attacking at Alem el Haifa, on 30 August but Montgomery just absorbed the attack with his tanks in defensive hull-down positions. Montgomery would not be drawn and continued building up his forces. Due to the Qattara Depression, there was no way for the German-Italian force to out-flank the Alamien position. The only option was a frontal set-piece battle. The 8th Army had vast artillery assets and ample ammunition supplies. Also critical was the RAF air superiority which severely interdicted the enemy supply lines²³¹. Rommel, recalled from sick leave after the new German commander, General Stumme, died of a heart attack, knew that the situation was hopeless from the beginning. On 23 October, Montgomery launched his force in an attempted break-through. A bitter battle of attrition raged until 4 November. Rommel had wanted to order a withdrawal but held off for 24 hours due to another 'no retreat' order from the Fuehrer. This final day proved to be highly destructive for the Afrika Korps in terms of men and equipment²³².

On 8 November 1942, Operation Torch began and an Anglo-American force landed in French North Africa. The allies made many operational and logistical mistakes but enjoyed air superiority. This was a major contributing factor to the success of the landings. Carpet-bombing did much to upset the axis forces, particularly the Italian troops. On the eastern side, the Afrika Korps was eventually cautiously pursued, by Montgomery, all the way back to Tunisia. Now Rommel was in between two great forces. The allies had not, however, attempted to simultaneously take Tunisia during the landings and Field Marshall Kesselring, head-quartered in Italy, was able to eventually send four more divisions over to form the 5th Panzerarmee²³³. The forces under Rommel were able to gain one last tactical victory with a strong central thrust at Kasserine Pass. Despite this local victory the allied forces now had superior numbers and were well supplied with good equipment. They were adapting their

tactics quickly²³⁴ and after a fierce campaign in the Atlas Mountains, Tunis was captured on 13 May 1943.

It is difficult to try and separate the details of the North African Campaign from the details of Rommel's generalship. The North African Campaign had his character stamped all over it. Throughout his advances Rommel would move about the battlefield goading his commanders to move faster. When they provided reasons to stop, such as maintenance requirements or replenishment of supplies, he challenged their thinking and conventions. Almost daily he would fly around the area of operations in a light Storch aircraft, checking on troop dispositions and progress. It was not uncommon for Rommel to drop messages from his plane, or actually land and discuss matters with particular subordinate commanders. He once narrowly avoided inadvertently landing amongst some British troops. When on the ground, and with an uncanny sense of navigation, he would race around the desert in his captured British armoured Mammoth, lending a morale boost to troops, giving direction to a local attack, or urging forward momentum. It is not difficult to see how a saying emerged in the First World War, "wherever Rommel is, the front is"²³⁵. Sometimes, in the fluid conditions of desert warfare, he ended up beyond the front. His Chief of Staff, Bayerlein, has confirmed that he was at one point given a tour of a British Hospital. Mistaken as a Polish general, he moved about his captured and very puzzled men offering wishes for a speedy recovery. At another time he had to 'wave off' surrendering British troops, as he had no way to transport them back. Criticism has been leveled at Rommel for his lack of detailed planning and staff work. In fact, Rommel's son Manfred has recounted a conversation where his father said that 'the best plan is the one that one makes after the battle is over'²³⁶. Certainly Rommel was a 'sharp-end general'. He enjoyed being at the front. He was a true 'artist of the battlefield'. To him, it was his style to treat war as an art. He was intuitive and had a sixth sense for battle. By being at the front and 'feeling' the battle in real time he could best manifest his command skills. That was where he could best dominate events, molding the battle to his will. As a manipulator of that most vital of all battlefield resources, time, he could generate windows of opportunity. He would work to force his subordinates to operate at a superior tempo to their enemy. The intention was to unbalance the enemy while maintaining balance himself. It seems that he could work well in this chaotic environment. Perhaps not all of Rommel's subordinates could but, nevertheless, it was where he excelled.

In assessing the way that the Germans fought in the desert in World War Two we are not so much assessing Wehrmacht doctrine as we are evaluating Rommel's style. Rommel was so deeply involved in the North African campaign, from the beginning to the end, that the Italian-German force he commanded was a personification of his philosophy on warfare. It is true that he more closely exhibited the qualities of a dashing cavalry commander than a strategist, although this does not mean that the campaign was devoid of strategic direction. Consequently his forces exhibited many features that are today classified as manoeuvre warfare, viz: commander's intent, verbal orders, mission tactics, flexible planning, boldness, fluidity of movement, momentum, OODA looping, and rapidity of decision and action. In fact, it would be a good guess to say that much under the modern mantle of manoeuvre theory has been adopted from Rommel's actions and writings. At a tactical level he epitomised the key features of the manoeuvre triangle: manoeuvre, tempo and focus.

Both operationally and tactically his targeting philosophy was no different to the rest of the Wehrmacht and other fighting forces of most wars. He defined the enemy centre of gravity as their strength, their fighting force, and rarely deliberately targeted vulnerabilities. Rommel even termed this aspect of destroying enemy fighting assets as the 'battle of attrition' under his 'Rules of Desert Warfare'²³⁷. The Afrika Korps Chief of Staff, Bayerlein, has written that the extent of defeat or victory is often dependent on the number of enemy tanks destroyed²³⁸. Such statements confirm a Clausewitzian approach to the centre of gravity.

On a strategic level he has been harshly criticised, by a liable High Command, and unjustly so, in the recent Official German War History. Yet, the problem may well have been the fact that Rommel took the whole Mediterranean theatre very seriously, when the High Command treated it as a 'side show'. Rommel was focused ultimately on the strategic goal of the Suez Canal, and the oil fields further east. He needed and expected extensive supplies, in order to get there, but was never backed logistically by OKW. For them it was viewed as a very limited campaign. Can Rommel be blamed for this? He was really the wrong commander for the campaign, a campaign without a strategic endpoint. They needed a cautious commander not a bold thruster. It was the result of a maladministered High Command. In light of the modern focus on the operational level of war, the level that links the strategic level to the tactical level, they were culpably lacking.

Chapter Six

THE RUSSIAN CAMPAIGN

Humans are inherently lazy. In any undertaking they will usually choose the easiest or fastest solution. Up until their invasion of Russia, code named Operation Barbarossa, the Germans had bulldozed all opposition that stood in the way of their invasion forces. The Russian Campaign was to be the ultimate test of the 'Blitzkrieg' style of warfare. A force essentially has several ways that it can bring about a defeat of the enemy. It can outfight him through better quality troops, leadership, C3I (Command, Control, Communications, and Intelligence) and battlefield skills. It can outgun him through superior mass or firepower or it can outthink the enemy through a better plan. Prior to Barbarossa, campaigns had largely been won through a combination of superior firepower, manoeuvre and pure weight of numbers. In Russia the Wehrmacht would meet for the first time an enemy with potential for equality in all three of these measures. It was to be the ultimate crucible for the Wehrmacht way of war. It was also to be the beginning of the end for the Germans. The run of 'lightning war' victories would eventually be reversed in Russia.

Not much was known about the Russian military capability prior to the invasion and opinion was divided as to the quality of opposition that they would pose. Ironically the Germans probably had the best chance of any nation to gather accurate intelligence on the Russian forces. Information was readily accessible from the Finns based on their recent combat during the Russo-Finnish conflict of 1939. Additionally and surprisingly it was the Germans that had the closest military relationship with the Russians. From the early 1930s the Germans had held military exchanges with the Russians and had set up both armoured warfare and pilot training schools set up in Russia²³⁹. Hitler held the view though, that as Slavs the Russians were sub-human and would be poor quality troops, equipped with low grade technology. He believed that their military was a primitive organisation unable to match the combat power of a modern mechanised army. This was also the view propagated in assessments undertaken on the basis of the Red Army's performance in the war with

Finland²⁴⁰. While the size of their forces was a factor, their quality was considered low and as such they were not held to be a capable opponent. Not all of Hitler's generals agreed. However from an organisational perspective, it seems that the quick victories of the previous campaigns had raised the confidence levels of the Wehrmacht to unrealistic levels. The defeat of Russia was planned as a single operation and was to be completed in rapid order by the winter. It was not envisaged to take longer than five months.

In depth planning gave way to high levels of confidence. Only a broad operational plan was devised for Barbarossa, unlike the detailed planning that had taken place for the French Campaign. Perhaps they believed that the battle experience gained from the previous campaigns would allow the tactical level commanders to develop the battle as they saw fit. A similar concept is that of reconnaissance pull as used in the modern *Auftragstaktik*, or 'mission tactics' style of command, where the 'commanders intent' is given but the actual course of action is left over to the sub-ordinate commanders to devise and develop. Much has been written about the role of the Wehrmacht in the development and use of *Auftragstaktik* at a tactical level²⁴¹. There is though, no more evidence that this style of 'directive control' was taught or used as a formal method in the pre-war German Army than in any other army of that era. As the saying goes 'no plan survives unchanged after contact with the enemy' and certainly the phrase is even more valid in the fluid battles of mechanised firepower. As the events of a battle unfold, a commander must manoeuvre according to circumstance. A good plan therefore must have a high degree of flexibility built into it. The concept of *Auftragstaktik* is perhaps one contemporary attempt at a solution, or at least the formal naming of a solution to this age-old problem that harks back to the very beginnings of warfare. As in many fields, the theory often follows the practice, not the other way around. *Auftragstaktik* is probably an idea developed post-war to explain what actually happened on the highly dynamic battlefields of World War Two. This highly flexible warfare evolved in stark contrast to the static conditions of World War One, that were still in the living memories of many senior officers in World War Two. Perhaps there has never been such a short period of time in history, where over the course of a mere two decades, the method of fighting war evolved so far. Although the seeds of this revolution in military affairs were sown in the mobility that was restored to the battlefield in the latter half of the Great War²⁴², a true large scale war of movement was not seen until the Second World War. Commanders that did not adapt to this new fast paced style of war did not survive. The Panzerwaffe, probably more than any other arm appreciated this and had experienced this new fluidity in

their operations leading up to the invasion of Russia. Their 'reconnaissance pull' therefore was something that just happened in the dynamic of the new speed that technology had given to the battlefield. As the front changed hour by hour and particularly with the Wehrmacht manoeuvre of encircling their enemy, tactical level commanders were left to their own devices. There was no other way. Events were moving so fast. Commanders and their subordinates had to find their own way to envelop the enemy concentrations as they encountered them. Their flexibility and initiative on the battlefield was not, however, always respected by the High Command or even Corps level command, as one of Manstein's subordinate commanders was to discover at the cost of his life. Guderian too found his energetic drive was curtailed by his army commander. The Wehrmacht functioned like any army. Orders from superiors were not open to a high degree of interpretation. If Barbarossa appeared to be conducted in a loose style of directive control it was probably as a result of the lack of detailed planning after the rapid successes to date. Such overconfidence was to have dire effects.

Britain's Field Marshall Montgomery once said that there were only two ultimate rules of strategy to follow. They were never invade China and never invade Russia. Certainly the vastness of the space in Russia has provided a very effective defence against many invading armies throughout the centuries. It would be no different for the Wehrmacht in 1941. The sheer size of the operational area was hard to imagine and like nothing the Wehrmacht had fought in before. It offered many opportunities in defence to the Russians and many problems to the invaders with regard to logistics and supply.

However supply lines were not the only problem. A nineteenth century theorist, Jomini, wrote about the virtues of an attack made on 'interior lines of operation', which basically means lines of operation that tend to converge to split an enemy force rather than divergent lines²⁴³. In the previous campaigns, the axis of advance had ensured that the German forces were brought closer together, allowing the possibility of mutual support from the other army groups if required. In Operation Barbarossa however, the axis of advance for the three army groups effectively moved them further apart as the campaign continued. Not only were they extending their supply lines but they were also losing the possibility of support from the adjacent force.

Russia was a vast country and the German intention was never to occupy the entire territory. Once the decision had been made by Hitler on 31 July 1940 to attack Russia, the Army General Staff began designing an operational plan. Previous operational studies had been completed by Major-General Marcks for the Army High Command (OKH) and Lieutenant-Colonel von Loßberg for the Wehrmacht High Command (OKW). These studies had identified Moscow and Leningrad as important industrial centres. Moscow was also the political capital and under Stalin's Communist dictatorship, the power was highly centralised there. In addition, the Ukraine was considered by the Germans to be the most valuable agricultural and industrial area. Despite the economic value of these areas it was acknowledged that even if European Russia was conquered it would still be possible for the Soviets to continue the war from Asiatic Russia with the resources of the Baku oilfields and the industrial region beyond the Urals²⁴⁴. These could be attacked by German air assets once forward bases had been secured close enough. The objective though would be to occupy European Russia based on its valuable raw materials and industrial strength. Hitler placed great emphasis on these 'economic aspects' of war.

More so than in any other campaign, Hitler's ideological motives influenced the conduct of operations. As he saw it the Russian Campaign would be a clash of two opposing world views. This idea influenced not only the fighting, which was carried out with a brutality not previously seen, but also the heinous way that the conquered population was treated by the SS and the armed forces. The great majority of Russian prisoners also never returned. Prior to the beginning of the campaign an order was issued stating that normal military law regarding offences against the civilian population would be overlooked²⁴⁵.

To achieve this victory for Germany, Hitler and the General Staff conceived a plan to defeat the Soviet Union with a single blow. A super scale strategic encirclement would be accomplished by two pincer movements, one thrust toward Kiev in the south and one toward Moscow, through the Baltic States in the north. The two arms would meet up behind Moscow in a huge Schleiffen-style strategic encirclement. It was to be another Battle of Cannae but this time on a scale never seen before by the world. This Super-Cannae became the broad concept that dominated the planning of Barbarossa. Starting in May 1941 the enemy would be defeated in five months. Right from the early stages of planning it was appreciated that the operation must be completed before the winter²⁴⁶.

There existed, however, a fundamental difference in opinion between Hitler and the Army General Staff, at a strategic level, over how the Soviet Union should be defeated. At an operational level it seemed clear that the centre of gravity to defeat was the Red Army. There was agreement on this intention. Hitler expressed his basic belief at a conference to senior ranking officers on 1 December 1940. The Russian forces would be destroyed, he said, in a series of large encirclement operations and then 'strangled in little parcels'²⁴⁷. This focus seems to have been clear throughout all the operations of the Wehrmacht and their fighting philosophies as applied in the field by the battlefield commanders. It reflected a long held obsession that had dominated Prusso-German military thinking for many years. Moltke the Elder, Chief of General Staff from 1857 to 1887, had first espoused the virtues of the *Vernichtungsgedanke* strategy of encirclement and annihilation²⁴⁸. Schlieffen, who reined as Chief of General Staff from 1891 to 1906, took the concept to new levels. Viewed by many in the German military and particularly the younger officers as a genius of war, his famous teachings and 'staff rides' had focussed on the quintessential battle of all time, Cannae. His pontifications on its salient features had turned Cannae into the 'philosopher's stone' of warfare. If one's forces could be 'touched' by the key elements and manoeuvrings of Hannibal's famous battle then any modern commander could also create a golden victory.

At a strategic level, however, opposing ideas were emerging. The OKH, having responsibility for Russian theatre planning, held views that differed from Hitler's, especially over which centres of gravity, if targeted, would most effectively enable the Wehrmacht to conquer Russia. Moscow was favoured as the main effort for the operation by the High Command. They believed that under the Stalinist regime all power was concentrated centrally in Moscow. The capital was also an important centre for war production and held the central junction of the Russian rail network. In contrast Hitler regarded the economic centres as far more vulnerable and critical and therefore more likely to bring about a rapid collapse of the enemy. He wanted to secure the industrial regions first which would also help in resourcing and supplying both the army of occupation and the German homeland. In the south, Hitler considered the Ukraine essential for its raw materials, the Donetz basin for its industries, and the Caucasus for its oil. Additionally he believed Leningrad to be the real political centre of Bolshevism, the defeat of which would have greater consequences than the targeting of the capital Moscow²⁴⁹. His intention was to give Leningrad to the Finns to provide a link with their allies to control the Baltic Sea. This dilemma between Hitler and the

OKH was never resolved and resulted in a divergent set of strategic objectives which influenced the final operational plans²⁵⁰.

The final draft of Directive No.21 attempted to meld together the wide ranging objectives of Hitler with those of the OKH although the insubstantial product was not lost on the Chief of Army General Staff, Halder, who noted in his diary, after the war, that the purpose of Operation was unclear²⁵¹. Hitler's views were expressed in his orations on how the invasion would be a clash of two world views. Only the strongest would survive. The weak would be eliminated. It was with this backdrop of 'Social Darwinism', that the military planners worked to produce politically suitable yet militarily viable plans. Barbarossa would become a unique operation that melded the National Socialistic ideology of racial domination with the Prusso-German ideal of the battle of annihilation. It is quite apparent that despite all the studies that had been carried out, there were competing objectives and operational approaches, both with Hitler and also within the Wehrmacht. It was as if they were going to get in and hope that their way would prove to be correct²⁵². Perhaps all the difficulties of planning led the General Staff to apply one of Napoleons favorite maxims '*On s'engage et puis on voit*', which translates to; '*get in and see what happens*'²⁵³.

From an operational perspective the general objective was to annihilate the bulk of the Soviet forces in the western part of the Soviet Union and to prevent the withdrawal of their combat forces. A line was to be reached beyond which the Soviet Air Force would be unable to inflict damage to German territory. The invasion forces were ultimately aiming to reach the Volga-Archangel line. From this line the remaining Soviet industrial region in the Urals would be within striking range of the Luftwaffe. Which strategic centres of gravity were to take priority was not clear. Many variants had been proposed which favoured either Moscow, Leningrad, or the Ukraine, or a combination of all.

The Army General Staff and their Chief, Halder, worked on the deployment directive which would give the operational intentions and timetables for Directive No. 21. It is clear that Halder gave the greatest preference to the thrust of Army Group Centre and the elements of Army Group North which would attack towards Moscow. Army Group South and their operations in the Ukraine received only a single sentence²⁵⁴.

On 22 June 1941 Operation Barbarossa commenced. With three giant masses, Army Groups North, Centre and South set out on a front that extended nearly 1000 miles. Barbarossa was supposed to be over within a few months. Instead it was the beginning of the end of the Wehrmacht and the Second World War. It was a significant part of the Eastern war which lasted three and a half years and was ultimately to become the largest military campaign in history. The operation was essentially to be carried out in two phases with the first objective being to destroy the Russian forces east of the Dnieper line. For the second phase, the major objective was the capture of what were considered to be the three main Soviet centres of gravity, Leningrad, Moscow and the Ukraine. It was not clear which centre of gravity was to be the main effort.

Studies of Napoleon's Russian campaign in 1812 have determined that he had struck out and continued towards Moscow without destroying all the Russian forces at the frontier. As he progressed deeper into the continent his supply lines became more and more endangered by the enemy troops left in his rear. Wehrmacht planners carried the German annihilation concept of war through to the operational objectives of Barbarossa²⁵⁵. They had no wish to suffer the same fate as Napoleon. Considered critical to the success of the operation was the early encirclement and destruction of the Red forces in the frontier regions. This Clauswitzian centre of gravity was ingrained in German military thinking.

An American writer, William Lind, has defined the object of manoeuvre warfare as:

*not to kill enemy soldiers, but to shatter the ability of whole enemy units – divisions, corps, even whole armies – to fight in an organised and effective way, and to panic and paralyse enemy commanders. The main means is not firepower, but manoeuvre*²⁵⁶.

It is generally accepted that superior manoeuvre is an integral part of Blitzkrieg theory, enabling one's own force to operate at a faster tempo than our enemy, while striking with focus at his critical vulnerabilities. A result of superior operating tempo is the effect of psychologically paralysing enemy command and control in parallel with the impact that this has on morale. Contemporary manoeuvre theory places strong emphasis on the principle of destroying enemy Command and Control. This has been described as a 'counter-command' strategy²⁵⁷. Much has been written on the so-called Blitzkrieg theory since the Second World War. Many writers have claimed that it targeted enemy command and control as a doctrine

based in counter-command philosophy^{258,259}. Analysis of pre-war German military writing shows up little evidence of a counter-command philosophy. What is evident from the battle histories of the Wehrmacht is that a style of warfare evolved which was in fact the antithesis of a counter-command strategy. They essentially followed a strategy of counter-force. A counter-force strategy is one that identifies and targets the enemy mass and fighting components as the centre of gravity, much as Clausewitz proposed²⁶⁰. If the Wehrmacht were to apply this style of fighting it was the *Panzergruppen* that would have the initial and most devastating impact. Guderian had been preaching breakthrough and mobility attacks for many years²⁶¹. Undoubtedly there were tensions that existed within the Wehrmacht, particularly at operational command level. These became evident during Barbarossa as the various battle formation commanders followed their own ideas and battle plans while doing their best to evade higher direction or explain away their actions as 'events overtaking plans'. The differences in opinion that did exist, at least at an operational level, were not of a counter-command versus counter-force nature but were armour versus combined arms arguments²⁶².

On the eve of the invasion the three army groups dispersed into battle order. Army Group North, under Leeb had 18 infantry divisions plus Hoepner's *Panzergruppe* IV. Field Marshall von Bock commanded the strongest group, Army Group Centre, which consisted of two *Panzergruppen*, one under Guderian, the other commanded by Hoth. Each *Panzergruppe* was deployed on the flanks of the 42 infantry divisions making up this group. The vast area of the Pripet Marshes in the centre separated the Ukraine in the south from Belorussia, which lay slightly north of centre. This marshy terrain provided a natural division between the operations of Army Group's Centre and South. Army Group South was commanded by Field Marshall von Rundstedt, and consisted of 52 infantry divisions and one *Panzergruppe*. Out of the invasion force totaling 133 divisions, 17 were armoured. The reserve force consisted of 20 infantry and two armoured divisions.

The Russian forces in opposition consisted of 132 divisions, of which 34 were armoured. However despite British intelligence reports warning of the imminent attack, Stalin refused to allow his forces to take up stronger defensive positions or any other preparations that would provoke the Germans. As a result Russian forces were generally unprepared when the invasion finally started. Within the first week the Luftwaffe destroyed 4,990 Red Air Force aircraft with the loss of only 179 German aircraft. Most of the Russian aircraft perished on

the ground and the aircraft that did get airborne were no match for the higher performance Luftwaffe machines. Gaining air superiority at this stage in the campaign gave a very strong early advantage to the Wehrmacht. German ground forces were able to enjoy almost unopposed close air support as ground controllers directed air assets from tanks in the leading elements of the attacking forces²⁶³.

Under Bock, the largest and most heavily armoured formation, Army Group Centre, retraced the traditional invasion path that Napoleon had taken to Moscow. Their immediate objective was to capture the 'land bridge' between Vitebsk and Smolensk and destroy the enemy forces in Belorussia in order to prepare the way for further advances towards Moscow²⁶⁴. To achieve this the armoured groups were to advance on either side of Minsk and to join up north of Smolensk, closing an outer ring that would prevent the withdrawal of the enemy forces across the Dvina and Dnieper rivers²⁶⁵. Hoth, the commander of one of the armoured groups, had requested permission to continue with a deep penetration further east instead of closing the ring but was refused permission by his army group commander, Bock. The request was based on the assumption that the stubborn resistance met at Brest-Litovsk was a planned operation covering the withdrawal of Red Army forces eastwards. Hoth wanted to pursue these forces in retreat. In reality it was the actions of a leaderless army in desperation. The only orders that were being issued at these early stages from Moscow were to fight ruthlessly. On 23 June Halder correctly deduced that the Soviet forces were standing their ground and fighting. He therefore decided on giving priority to destroying the enemy forces in the area already covered rather than any deep penetrations further into Russian territory²⁶⁶.

This traditional approach of clearing and securing captured ground was consistent not only with the German military but also the generally accepted doctrine of most nations' forces. Undoubtedly there was the odd 'progressive' officer, particularly in the armoured forces, and certainly not confined to those of Germany. Britain, in fact, had led most of the tank force development during the inter-war years²⁶⁷. They had Q Martel, Charles Broad and Percy Hobart. France had de Gaulle. It would seem that Guderian and Hoth fitted into this category and both were continually pushing for permission to penetrate deeper into enemy held territory. However, the usual handling of the Wehrmacht forces in battle was conducted in a methodical way, albeit with technology that enabled mobility. The natural consequence of that mobility was an increased speed of operations and everything that went with it. As a result, events were happening at a much faster rate on the battlefield than they had in the First

World War. Decision making had to be done faster and often events moved so quickly that there was no time for referral back to higher command for orders. The modern concept of *Auftragstaktik* or decentralised 'mission tactics', is hard to find in pre-war German military teaching²⁶⁸. Today many theorists look back to the rapid increase in pace of operations experienced and try to explain it as theory applied to the battlefield. In reality it seems the practice came first, in a necessary evolution of the application of new technology to battle. The past 50 years has seen a theory developed to fit the adaptations and events that happened during that war and subsequent ones.

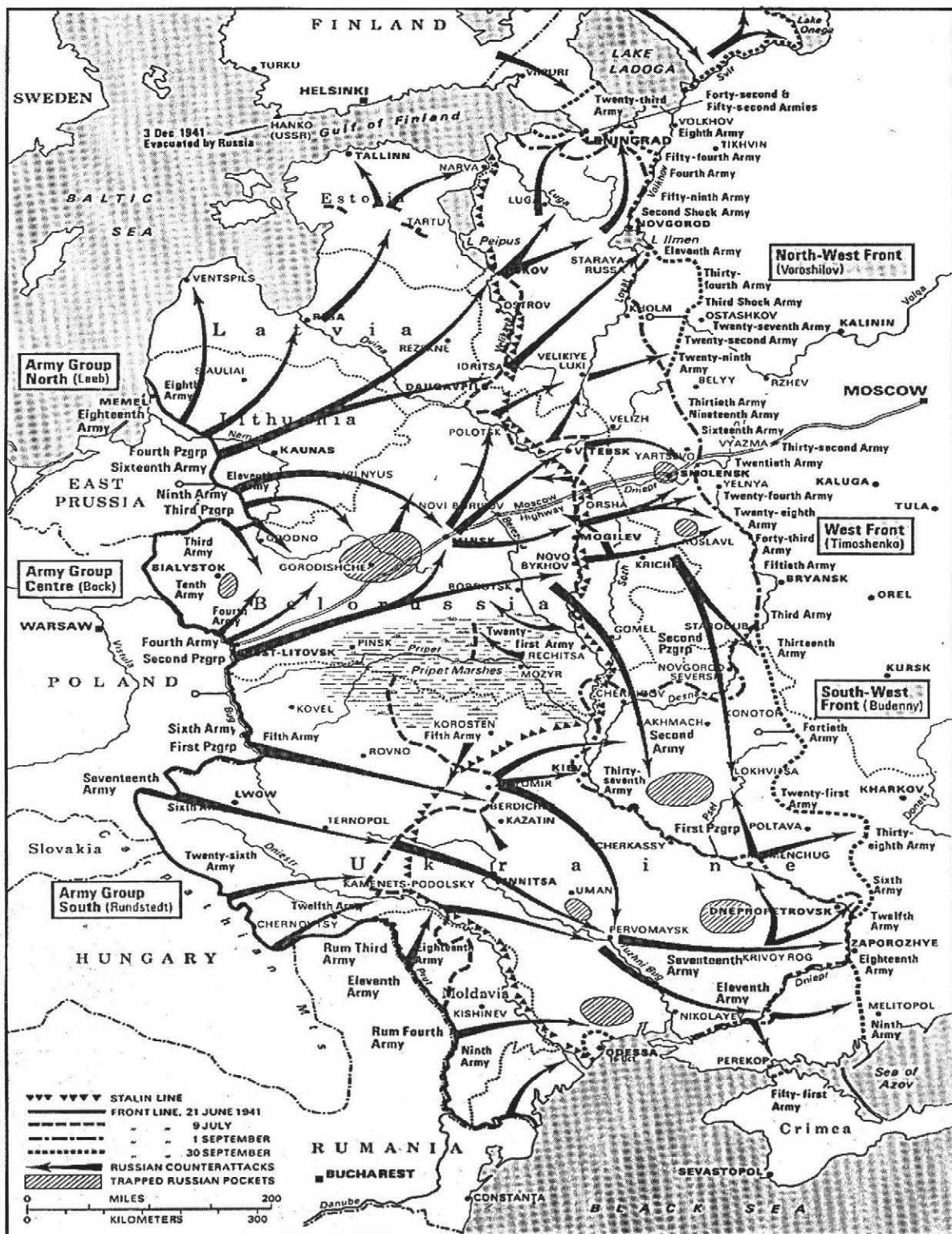
It has long been acknowledged that war brings with it a friction almost never seen in civilian experience²⁶⁹. Clausewitz said: *Everything is very simple in war but the simplest thing is difficult*²⁷⁰. It is a modern trend for manoeuvre theorists to describe this 'friction' as 'chaos' or as a cause of the chaos that is seen in battle. While chaos is a bad thing if found in one's own forces, it is considered a good thing, and something to be deliberately generated, amongst our enemy's forces. It will then benefit our position by weakening our enemy. Much contemporary writing attributes the development of this principle to the German forces of the Second World War and their 'Blitzkrieg' theory. Apart from generating a superior operating tempo to your opposition, it is said that the best way to 'give your enemy a bit of chaos' is to target their vulnerabilities. Such functions considered vital but vulnerable, like command and control, and logistics are usually found in the rear echelons. Many of Napoleon's victories were won using his outflanking variant, the *manoeuvre sur la derriere*. This battlefield move used a mobile element to outflank and strike at the rear while a holding element fixed the enemy frontally²⁷¹. The result was that it turned the opposing force to fight on a reversed and unexpected front. Part of the success of such moves comes from the shock effect and resultant chaos that is caused by the sudden arrival of the enemy from an unexpected direction.

After the large frontal battles and difficulties experienced in outflanking a front in the First World War, military theorists such as Liddell Hart, Fuller and Guderian looked for a new way to strike deep. Partially based on the Stormtroop tactics of that war, they wrote of the technique of finding a weak point in the front and then making a concentrated strike there²⁷². After a break through was made the momentum would be continued with penetrations deep into the enemy rear areas in a 'deep battle'. This is often cited as a key principle of upon which *Blitzkrieg* was founded. Guderian's work discusses terrain, en masse use of tanks,

surprise and breakthrough attacks but mentions only briefly deep strike at C31²⁷³. In the main, pre-war German military writing is distinctly lacking in this principle of 'deep strike'.

The reins put on commanders such as Hoth and Guderian seem to illustrate a distinct uneasiness that most commanders have with ill-defined FEBA's (Forward Edge Battle Area). Commanders in battle like to know that, even in a rough sense, the enemy are forward of one line or at least confined within a certain zone. They find little comfort in the knowledge that the enemy are all around us, even if we are striking deep into their positions. This is to say nothing of the potential for friendly fire incidents in such ill-defined battle zones. Situations on the Eastern front were often very confused reflecting the fluid nature of mobile operations. One Wehrmacht officer claimed that often they did not know if they were out flanking the enemy or whether they themselves had been outflanked²⁷⁴. The Wehrmacht were no different to other forces and had been weaned on the fairly rigid teachings of Schlieffen's closed ranks and company-drill-like advance of armies²⁷⁵.

By June 25 Army Group Centre was engaged in a number of encirclement battles along their axis of advance. At the former Polish city of Brest-Litovsk, resistance was still being put up by the Russian garrison which the invasion force had first encircled. Twelve of the frontier divisions had been surrounded on the Bialystok salient and at Volkovysk. Fifteen Soviet divisions were enclosed in a pocket at Minsk, and the strings were being drawn²⁷⁶. One of the principle problems encountered with the Blitzkrieg style operations was the disparity in speed between the armoured and infantry units. The armoured groups could easily cover fifty miles per day, only needing to stop for repairs and resupply. At twenty miles a day or less the infantry were continually having to catch up with the Panzers. The practice that developed involved the panzers racing forward, encircling enemy concentrations in a 'ring of steel' and then waiting for the following infantry to secure a second inner ring, allowing the panzers to then move off to target their next enemy strength. This practice however slowed the average rate of advance to that of the slowest element, that being the infantry. This problem had been discussed during the development of the Panzerwaffe but was never really overcome. Although Guderian is often perceived as an 'armoured force purist' his pre-war writings actually acknowledge the force multiplication effect of combined arms formations²⁷⁷. In these writings he in fact advocates the development of mobile and armoured infantry troop transport, supply vehicles, and artillery pieces to support the rapid thrusts of the panzer units²⁷⁸.



Map 6.1: The Invasion of Russia

It was not really until the Wehrmacht fought in Russia that the true depth of this problem with different speeds of advance was highlighted by the enormous distances that had to be covered. In the initial stages of Barbarossa the Germans were advancing in a leap frog pattern. As mentioned above, the Panzer groups would race ahead and encircle the Soviets in pockets until the following infantry could arrive to continue the battle to annihilate the surrounded forces. However the further the advances made into the depths of Russian space the greater became the problems of supporting and supplying mobile operations with horses and foot soldiers.

Although the Russian forces lacked cohesive leadership and direction in the first few weeks, they were able at points, to bring up defensive forces and launch effective counter-attacks. It is evident that the traditional focus of the German military on destruction of enemy forces often 'tunneled their vision' when confronted with significant enemy resistance. Rather than search for an area of vulnerability, they would throw all possible firepower forward in order to destroy the enemy obstruction and drive forward. In previous campaigns against enemies of limited resources this strategy may have worked but against a Leviathan like Russia, what essentially would be a war of attrition would not be successful. An example of this approach occurred at Borisov, where a Soviet armoured formation with air support attacked the Germans crossing the Berezina, slowing down the attack on Vitebsk, to anything but a lightning attack²⁷⁹.

Despite Halder's early refusal of Hoth's request to advance deeper, as it became clear that the Russians were only fighting uncoordinated actions, Halder did give priority to maintaining forward momentum. This was contrary to the ideas of both Hitler and the High Command who wished to destroy all the enemy forces in the areas already covered. Confusion was sometimes experienced at middle-command levels as Army High Command issued orders that were not always clear and tried to accommodate both points of view²⁸⁰.

On 8 August the Smolensk pocket surrendered and 185,000 Russians were captured. With the road to Moscow virtually open and only 200 miles to run, a struggle now emerged between the wishes of the General Staff to hit Moscow and the wishes of Hitler. In accordance with his original concept of the Soviet centre's of gravity, he now wanted to strike at the industrial area of the Ukraine and the Crimea from which the Red Air Force could launch raids against the Rumanian oilfields. In the north Leningrad was considered the

main objective by him, as both a political prize in that it was seen as the 'cradle of Bolshevism' and strategically vital in order to eliminate the importing of iron-ore from Sweden. Hitler intended to achieve this by destroying the Soviet Baltic Fleet and giving Leningrad to the Finns²⁸¹. Operational Directive 33 was issued on 19 July which diverted the *Panzergruppen* of Army Group Centre. Hoth's *Panzergruppe* was to move north to help in the advance on Leningrad while Guderian's *Panzergruppe* went south to encircle the founding city of Russian civilisation, Kiev and the Soviet armies in the Ukraine²⁸². OKH and OKW, as well as an unauthorised Guderian, tried hard but unsuccessfully to change Hitler's mind on the dispersal of assets away from the central thrust. It was intended that once the objectives of Army Group's North and South were captured then Army Group Centre could be reconstituted with its *Panzergruppen*. The advance would then be continued on Moscow, which was to be encircled and directly assaulted.

In the north, Leeb's Army Group advanced along the Baltic Coast, securing Lithuania as it progressed toward its objective of Leningrad. In the south, Rundstedt's Army Group captured Odessa, the Black Sea ports, and Przemyśl before running into the Soviet South Western Front, a force strong in armour and equipped with the highly effective T-34 tank. The Soviet commander, Koroponos, directed effective counter-blitzkrieg tactics by pinching the spearheads of Kleist's *Panzergruppe* in concentric attacks. However the close air support of the Luftwaffe and the second pincer arm of Guderian's Panzers coming down from Army Group Centre eventually enveloped the Russian forces in the Ukraine in a huge *Kesselschlacht*. The Uman pocket yielded 103,000 prisoners in early August after which the panzer spearheads spread out to form a super Cannae around the Kiev concentration of troops. Until the internal combustion engine was applied to the field of battle such large-scale encirclements were not possible nor was the speed available for which they could be accomplished. As Army Group South and elements of Army Group Centre came together at Kiev they formed a double envelopment in the shape of a triangle with sides 500 kilometres long. The mobility of tanks now allowed those forces to manoeuvre in a way that replicated Hasdrubal's cavalry at the revered battle of Cannae, to close the envelopment and force the enemy to fight on a reversed front²⁸³. Two Panzer Divisions from Guderian's group, commanded by the energetic Generals Model and von Thoma made a huge drive south to link up with Kleist's *Panzergruppe*. By the time they arrived, on 16 September, they only had a few serviceable tanks available and needed to break for repairs²⁸⁴. On 26 September the Battle of Kiev was successfully closed in what was the largest pocket battle ever attempted in

history. Kiev had been pounded by Luftwaffe bombing in true Prusso-German annihilation style. When it capitulated after extremely brave Russian fighting, during which their commander Koroponos was killed leading a breakout, 665,000 prisoners were taken. The operational intention as expressed by both Hitler and Halder from the start of the Battle of Kiev was not to occupy the city but to destroy all enemy forces west of the Dnieper River²⁸⁵. Although Kiev was eventually occupied it was Hitler's belief that large cities should not be directly attacked, particularly not with armour, but are best encircled and then hammered into submission by air and artillery fire²⁸⁶.

Further south, Manstein's Eleventh Army advanced on the industrial regions of the Donetsk Basin and the Don. Crossing the Dnieper estuary he potentially cut off thousands of enemy soldiers and sailors in the Sevastopol area in addition to threatening the entire southern flank of the Red Army. Manstein's Army had taken all of the Crimea with the exception of Sevastopol and Kerch by 16 November 1941²⁸⁷. They had captured another 170,000 prisoners. Hitler considered the Crimea an unsinkable aircraft carrier from which the Rumanian oilfields could be attacked by air. On 17 December the attack on the fortress of Sevastopol began. Many German resources were poured into this attack as Hitler considered it a necessary victory to boost the morale of a depressed army. Sevastopol, a fortified naval base, held out until 2 July 1942. Events in the Crimea illustrate some truths about Wehrmacht combat doctrine. As with many of the German tactical battles, Sevastopol was clearly an enemy strength. Once the air threat was eliminated from the Crimea a solid argument could have been made to expend the considerable German force that was required for its defeat into some other enemy Centre of Gravity, preferably a critical vulnerability. Yet for eight months, vast resources were poured into its defeat and capture²⁸⁸. Another incident, in contrast to the often cited *auftragstaktik* style of directive control, illustrates the rigidity of the orders issued by German commanders. During the fighting in the Crimea the commander of the 46th Infantry Division, Lieutenant-General von Sponeck ordered the withdrawal of his soldiers to avoid being cut off on the narrow neck of the Kerch peninsula²⁸⁹. Far from acknowledging his initiative in manouvring according to circumstance, his action was considered a flagrant breach of orders and he was subsequently executed for disobeying them.

In the north, the strategy at Leningrad was fundamentally the same, but with a sinister change. It was considered that taking a city of three million inhabitants would be costly in

terms of men along with the impossibility of feeding the large number of prisoners captured. The solution for the Germans was to hermetically seal the city and then bomb and starve the occupants to death²⁹⁰. After a disagreement with Stalin, the great Russian Marshall, Georgi Zhukov was placed in command of the defence. Even more so than the great Marshall Zhukov, it was Lake Ladoga that became the godsend for the inhabitants of Leningrad. The lake prevented Leeb's force from totally surrounding the city and when the winter came it provided a frozen bridge by which supplies could be lorried across²⁹¹. The siege was to continue until 1944 but by the time it was lifted, more than a third of its three million residents had succumbed to starvation. This pattern of breakthrough, encirclement and then annihilation or capture of the enemy forces was repeated throughout the campaign.

As the campaign continued with disagreement at higher levels on the strategic centres of gravity, the Wehrmacht continued at a tactical level, with an approach at the other end of the spectrum from that which manoeuvre theory espouses today. They focused on destroying enemy strengths. In accordance with the first phase objectives, the masses of Russian military strength were encircled and destroyed. In October 1941, eight Russian armies were enveloped in the double battle of Bryansk and Vyazma. 673,000 prisoners were taken, 1242 tanks and 5432 guns were captured or rendered unserviceable²⁹².

Despite all the defeats the Soviets had an enormous capacity to absorb losses and continue. They seemed to have unlimited manpower and vast resources. Their ability to continue producing large numbers of fighting assets, particularly tanks and aircraft, dwarfed the German efforts²⁹³. Before the Ukraine was overrun, over 500 factories were physically relocated by train to other areas, particularly to the newly created industrial region in the Urals²⁹⁴.

At the end of September the Wehrmacht resumed their advance on the centre of gravity favoured by the General Staff, Moscow. However this time they were not the same fighting force that had been diverted away in mid July. The many battles fought since then had reduced their fighting capacity. Even worse, a winter was approaching for which they were unequipped. Soviet forces had their first victory recovering Rostov in the south on 29 November. Advance units of the Wehrmacht reached the rail terminus on the outskirts of Moscow on 2 December. Although they could see the towers of the Kremlin in the distance the German advance had reached its culminating point. Zhukov was now able to release

twenty five of his best Siberian divisions, now free from the Japanese threat in the far east. On 5 December the Soviets began their general offensive from Moscow back towards the west and the Germans were never again to see Moscow. They were now starting back in the direction Napoleon had taken in his disastrous retreat of 1812. Perhaps remembering this, Hitler gave his famous 'no retreat order'. With a reluctance to give up captured ground the German strategy was to form defensive 'hedgehogs' which the Russians could move around, but not take. The Soviet counter offensive recaptured lost ground and established a number of salients but took no strongholds. It too reached its culminating point in February 1942²⁹⁵.

A vital ingredient of the initial success of the Wehrmacht in Operation Barbarossa was the air power that was brought to bear on the Soviets by the Luftwaffe. The early destruction of the Russian airfields and many of their aircraft while still on the ground is a clear example of the dislocation concept of defeat as proposed by manoeuvre theory. Aircraft on the ground are an enemy strength rendered vulnerability. Once airborne they very quickly become an asset to be feared. This exception to the normal Wehrmacht targeting philosophy of focusing on enemy strengths was enhanced by the pre-emptive value of striking those assets early in the operation while surprise was still on the German side.

As the campaign continued close air support at a tactical level proved very effective for the Wehrmacht. However the classic problem for air support of determining friend or foe resulted in occasional friendly fire incidents, particularly where the tank forces were reluctant to lay out their ground force identification panels for fear of enemy air attack²⁹⁶. The Russian forces in fact were able to use this form of identification to their advantage by often covering their own tanks in Swastika panels.

The battle of Stalingrad has gone down in history as the decisive turning point in World War Two. Stalingrad was a city that spread out along the Volga river for twenty miles. It was therefore difficult to encircle in the normal way. The Germans here reverted to the strategy used in the First World War at Verdun, a massive battle of attrition. Massive amounts of firepower were poured in as they attempted to take it street by street. Lasting for five months over the winter of 1942 and 1943 most of the city was leveled as General von Paulus and the Sixth Army tried to absorb as much Russian combat power as possible. However the Soviets had been assimilating the German encirclement techniques and applying it to their armour. At Stalingrad they planned and executed a textbook encirclement that cut off the Germans in

the city. Paulus declined Manstein's offer to help in a breakout of the city²⁹⁷. With Goering's impractical guarantee of the Luftwaffe resupplying the Sixth Army from the air, the intention was to form another 'hedgehog' defensive position that would hold ground. It didn't work and the newly promoted Field Marshal together with 91,000 of his Army surrendered on 31 January 1943²⁹⁸.

The battle that occurred at Kursk in 1943, from 5 to 12 July, is remembered as the greatest armoured battle in history. The Russians had by now learnt the highly predictable pattern to the German encirclement and annihilation *Kesselschlacht* battles. They now intended to use that knowledge against them. Operation Citadel began with 2,700 German fighting vehicles matched against 3,000 Russian ones. The mobile firepower of blitzkrieg was now being met with a mass of equivalent mobility. With the Kursk salient being extremely well defended by three fortified defensive layers, it was clear that the Germans would identify it as an enemy strength and seek to encircle it. They would then try to destroy Vatutin's and Rokossovsky's sixty divisions²⁹⁹. This pattern of manoeuvre happened as predicted however the northern flank made little ground before being broken up by Russian tank-hunter groups. On the southern flank, Hoth made more ground only to find he was being drawn into an artillery killing zone. At this point the Russian tanks were unleashed. Both sides collided in a close quarter, free for all style battle, with 1000 tanks ramming and fighting each other in an area of ground so confined that left no room for manoeuvre. At the end of the week long battle, 20 Panzer divisions had been destroyed in running battles. The battle of Kursk remains a poignant illustration of what happens when strength meets strength. Zhukov, the Russian commander at Kursk however had a better strategy that predicted where and how the Wehrmacht would strike. The standard Wehrmacht *modus operandi* had become too predictable.

At the beginning of August 1943, the Soviets began their big counter offensive that would take them all the way to Berlin in 20 months³⁰⁰. Ironically it was their advance all the way to the German capital that most closely resembled the tenets of manoeuvre warfare theory. With elite mobile groups at the vanguard seeking out enemy weaknesses to attack they would break off when encountering strong Wehrmacht units. By ferreting out another area of weakness they would flow like water through those gaps³⁰¹.

Nothing fails like success. Many highly successful armies throughout history have eventually suffered dismal failure. The run of good fortune comes to an end or the successful formula eventually fails to work and the once victorious army starts losing. Easy success often breeds overconfidence and overconfidence breeds complacency. Often some external factor changes, the terrain, the technology, or the enemy, and the old victor fails to adapt. He then in turn becomes the new vanquished. In Russia certainly the terrain was vast and the weather extreme. The enemy too was different. Despite Stalin's military purges of the 1930s that removed hundreds of his most competent Generals, including the great advocate of deep battle and armour, Tukhachevsky, the Soviets were still a formidable foe³⁰². They were many, they were tough³⁰³ and they had vast resources. Importantly, they had that powerful battlefield factor, mass, and they eventually generated great momentum from it. Additionally and perhaps surprisingly the Russians had, in the T-34, a technologically superior tank to the Panzer forces. Ironically the Wehrmacht themselves, the greatest mobile firepower enthusiasts of all, were now threatened by an enemy capable of out-gunning and out-maneuvring them. While the great battles of encirclement and annihilation usually worked well for the Germans, the Centre of Gravity that the Wehrmacht targeted, the Soviet combat forces, seemed to have almost unlimited survivability. They appeared able to continually generate more battlefield replacements. The mechanised *Kesselschlacht* battles worked at a tactical level but strategically the designated main efforts for the three Army Groups dispersed the Wehrmacht combat power too widely. At a tactical level, the Russians began imitating their enemy and with the force size advantage, the technology cancelled itself out. The Germans had finally encountered an enemy with better tanks, and more of them.

If any theory of warfare offers the chance for a smaller force to defeat a larger one, it is manoeuvre warfare. Pre-emption, dislocation, or disruption are the means by which that defeat can occur. It is probably a truism that all war is eventually about fire power or potential firepower at decisive points. Superior manoeuvre and tempo will generate opportunities on the 'event horizon' of time, for a force to use that firepower to its advantage. That advantage may materialise through a commanders '*coup d'oeil*', or 'blow of the eye', often described as the ability to see a superior move before the situation has crystallised. A vulnerability may develop for our enemy at some point in space and time due to any number of factors, a lack of protection, failed security, a dispersal of force, stretched logistics chains or a slower tempo. A faster tempo in itself will generate opportunities to strike, often through increasing uncertainty and chaos for our enemy. To strike at those vulnerabilities will reduce

the enemy's ability to fight or his will to fight to low levels, resulting in the dissolution of that threat.

Up until Barbarossa, the Wehrmacht had dominated battlefield events with superior mass, mobility and firepower. Guderian called it *stosskraft*, which translates to 'dynamic punch', or 'striking power'³⁰⁴. The campaigns prior to Russia had highlighted the 'dynamic punching power' that could be gained by the technological advantages of airpower combined with mechanised forces and numerical superiority. Mass and its momentum do count in war, particularly in the 'German way of war'. In the words of one German General, when it came to Russia, Germany was like an elephant fighting swarms of ants – the elephant might kill thousands or even millions of ants but eventually it will succumb. Ironically it was the Russian campaign that poignantly illustrated how the Wehrmacht had so successfully defeated all their previous opponents. It was effectively through the superior technologies of aircraft and tanks applied to the field of battle in superior numbers. An offshoot of that new technology was a faster operating tempo than their foes, generating however serendipitously, chaos for that enemy.

If those victories had been won through a superior fighting philosophy rather than superior striking power, then Operation Barbarossa would have shown it. Instead technology cancelled itself out and the side with the greater mass and production capability won. Had the Wehrmacht been applying a more 'manoeuvrist targeting philosophy', that focused on enemy vulnerabilities rather than strengths, then the result may have been different. However the reality of the 'Wehrmacht way of war' was somewhat different to the myth that still surrounds it. They were in fact a very traditional force, fighting in a style that reflected their Prusso-German origins. Their targeting philosophy was Clausewitzian in the extreme and was no different to what armies had been doing since antiquity. They had been trying to destroy the combat core of their enemy - their soldiers, their guns, and their fighting machines. Like a U.S. Stealth fighter pitted against an Iraqi MiG-21, their advantage up until Barbarossa was that they had been early adopters of a new technology that lent itself well to offensive operations. And offensive operations were what the Wehrmacht was all about.

Chapter Seven

CONCLUSION

This work has primarily focused on the question of defining whether or not the Wehrmacht forces of World War Two operated in a way that would be defined, in today's term, as manoeuvre warfare. While Clausewitz has been called the 'Mardi of mass', the Wehrmacht have been revered, by many writers, as the 'Mardi's of manoeuvre'. In reality, they were the first executors of 'mechanised Clausewitz', on a large scale. By amassing their mobile combat power, they would overwhelm their enemies in a 'maelstrom of firepower'.

By investigating the way that the Wehrmacht fought, this thesis examines the way that style evolved and seeks to analyse whether it was based on manoeuvrist foundations or not. Was there a deliberate, planned adherence to a doctrine that advocated the targeting of enemy weaknesses and the avoidance of enemy strengths? Or did another form of mobile warfare evolve, that has been interpreted today, as manoeuvre warfare? Did their 'way of war' contain some of the elements, enabled by technology, that are held within the modern framework of manoeuvre theory? Additionally, this work has investigated the effectiveness of that style, and in particular, the elements that made it effective.

The problem is by no means simple. The Second World War was a momentous epoch in the course of world history. One must try to avoid over-simplifying the complex concatenation of events that made up the Second World War in general, and the Wehrmacht operations in particular. It is tempting to look back and selectively pick out battles from history that fit with one's hypothesis, and exclude others that do not. Even the official histories are only one version, albeit the 'official' one. The events of the Second World War were, after all, made up of a continuum of different commanders and battles, fought over a highly turbulent six year period, against many different nations. Undoubtedly, there were considerable developments, refinements, differences and evolutions that occurred during that time. This analysis within this work, has necessarily been confined to a particular scope and perspective. It has concentrated, principally on the main offensive operations, looking at them through a 'manoeuvrist's lens', primarily from the grand tactical/operational level.

With the increasing profile of manoeuvre warfare at staff colleges and throughout armed forces in general today, the Wehrmacht have been adopted, by contemporary theorists, as the 'high priests' of the art. Consequently, much time has been devoted to the study of their doctrine and operational methods, during that first large scale deployment of mechanised firepower, with the aim of touching their 'philosophers stone' and emulating their practice's. It is common to review events and determine a specious explanation suggesting that the outcomes were premeditated and carried out intentionally. The literature on the Wehrmacht is no different. They have been deified. Yet the Wehrmacht way of war, was, in many regards, shaped by the technological and socio-political events of its time. Their Fuehrer had launched them on a path of invasion, and they would therefore be the offensive force. Tanks were new battlefield weapons that happened to lend themselves well to offensive operations. And so the way was forged. So, what was the Wehrmacht way, what did they practice and what was their pre-war teaching? Was Rommel, for example, really the quintessential product of many years of Wehrmacht honing and indoctrination in a manoeuvrist mindset, or was his style just the manifestation of his own personality and character? In all likelihood, he was probably more the exception than the norm, amongst the Wehrmacht officer corps, a dashing cavalry commander, no different to the English mavericks; the Slim's, Stirling's and Connor's of the Second World War, or the Lawrence's of the first one. Accepting all the difficulties of reviewing the events of history, there remains a certain discernable pattern to the way that the Wehrmacht propagated their battles. With the intention of analysing the German operational methodologies against manoeuvre theory, it has been necessary to precisely define this concept. The resultant model of manoeuvre warfare developed in the first chapter has been reproduced in Fig. 7.1, and provides a template for comparison against the battle histories. It is essentially composed of three constituent parts; the enablers of manoeuvre warfare, the targeting philosophy, and the means of defeat. Critical to the model is the philosophy used to determine the enemy centre of gravity. As originally proposed by Robert Leonhard, with an analogy to chess, the distinction is one of enemy strength or vulnerability³⁰⁵. The model proposed by this work, in Chapter One, holds this targeting philosophy to be the critical component to manoeuvre theory. In order for a defeat to be inflicted, a force must first be positioned at a point on the battlefield that will allow for that defeat to be delivered. This component has been termed the 'enablers of manoeuvre warfare', and is composed of three parts; manoeuvre, tempo, and focus. As has been previously described, all battle is eventually about firepower. These 'enablers of manoeuvre'

will allow a force to bring that firepower to bear, at decisive points in space and time on a battlefield, much in the way that secured many of Napoleon's victories. So, it can be perceived that one quality of manoeuvre is in the multiplication effect that it has on firepower. The delivery or 'focus' of that firepower at vital points has variously been termed the *Schwerpunkt* or Main Effort, and if directed skillfully enough, it can preempt, dislocate, or disrupt a superior force, bringing about its demise. Vital though to this defeat, is the targeting of a critical vulnerability. A victory by trying to destroy an enemy strength is usually only viable if one's own force has a firepower superiority. Clausewitz, the Mardi of mass, understood this by advocating a superiority of numbers or 'mass'. Wars of attrition are seldom won by those sides with inferior numbers or lower 'technological mass'.

It is commonly accepted that the Wehrmacht invasion of Poland on 1 September 1939, was the enactment of a German doctrine, known as 'Blitzkrieg theory', largely accredited to the armoured force advocate, Guderian. Many of today's manoeuvrist concepts such as *Schwerpunkt*, avoidance of enemy strengths, targeting of weaknesses, and *Auftragstaktik* are said to derive from this theory. When looking for origins of Blitzkrieg, it has been claimed that it was the brilliant synthesis of two innovations during the later stages of the First World War, that attempted to circumvent the stalemate of trench warfare.

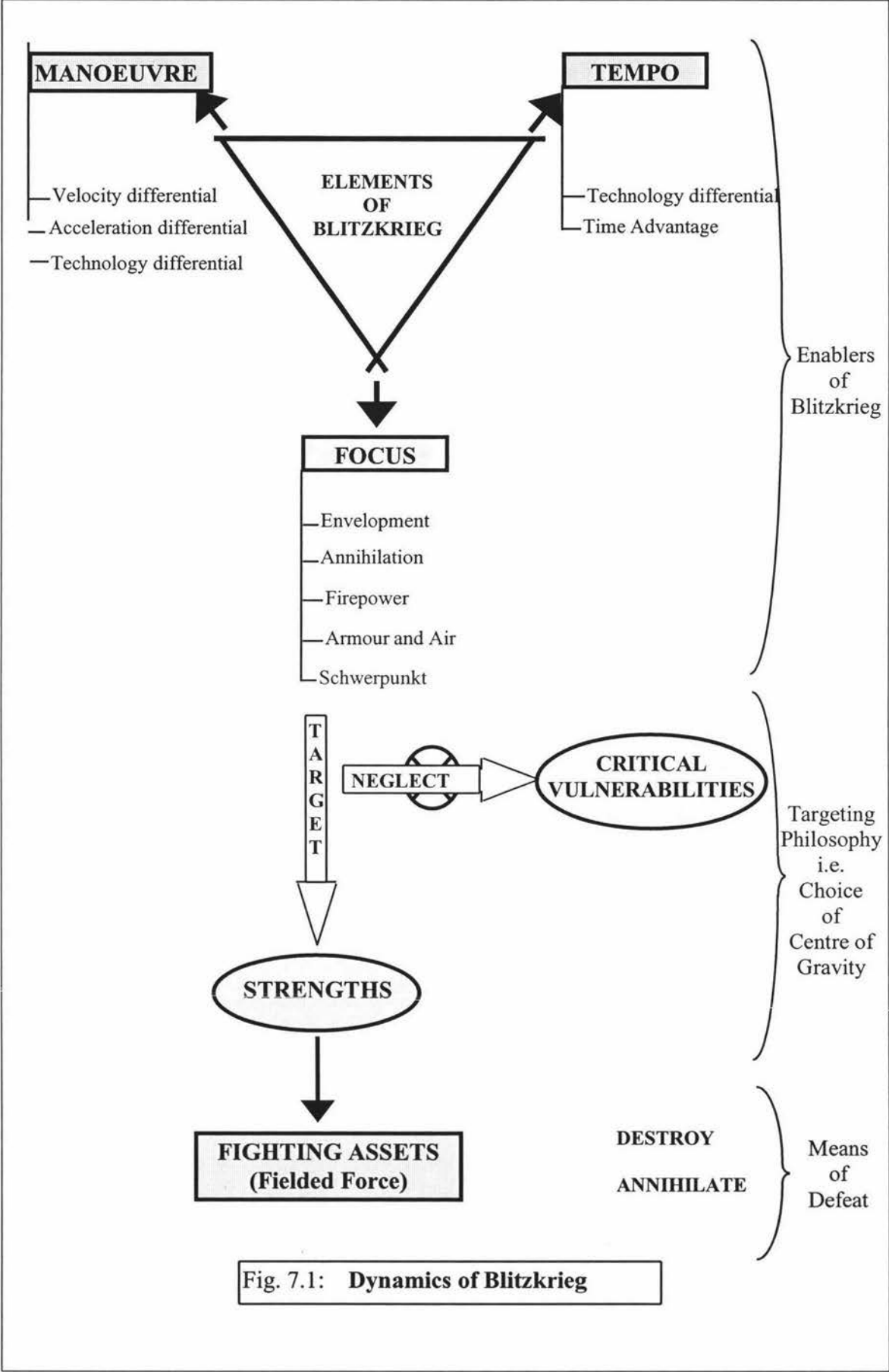
The first idea, developed by the German side, was the concept of infiltration or 'Hutier' tactics, which employed 'Shock Troops' or 'Storm Troopers', to focus on a weak point in the British lines and then to break-through at that point. These infiltration tactics were founded on concepts that are encapsulated today as manoeuvre theory. Using the principle of surprise, the small, rapidly moving raiding parties of shock troops would hit enemy weaknesses and strike deep into the enemy rear areas, to target vulnerabilities, while avoiding encounter battle with enemy strengths. The second development, that is said to be contained within Blitzkrieg theory, was the tank. First employed and championed by the British, its vast potential was grasped and advocated by Guderian during the interwar years, as discussed in his 1937 book, *Achtung Panzer*. It seems to be accepted as convention now, that it was primarily these two ideas, deep infiltration and the tank, that were combined to form Blitzkreig theory.

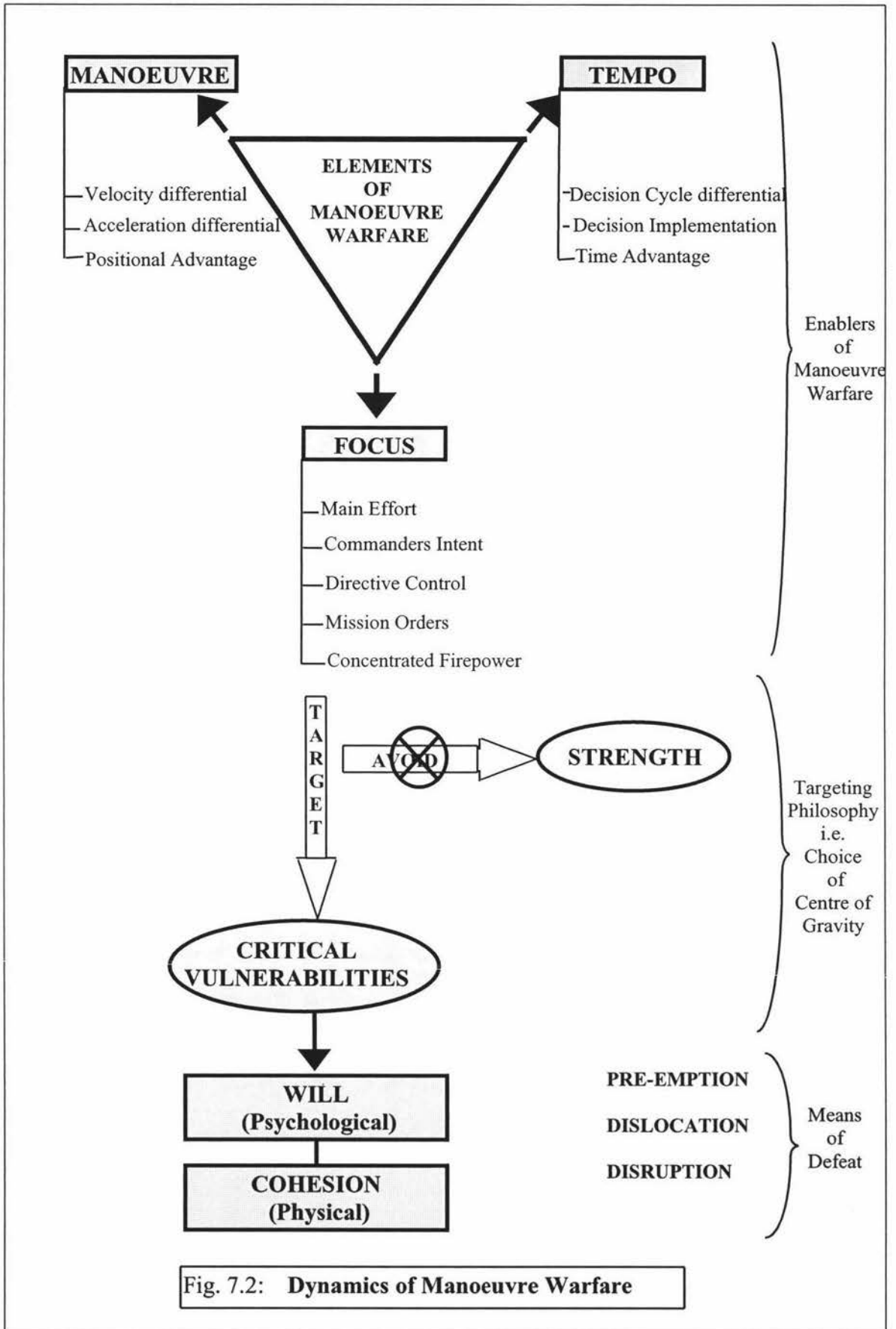
Much fantasy has crept into the descriptions of the Wehrmacht 'way of war'. The commonly held views on the origins and philosophy of the German style are not supported by the facts. In terms of striking deep at enemy vulnerabilities, and avoiding strengths, Blitzkrieg was

neither a prescribed theory, nor even conceptualised as a German word prior to the outbreak of hostilities in 1939. If there was any 'flowing around' enemy strength's, it was only in order to encircle and annihilate them. Time seems to have performed a magical process of alchemy on the Wehrmacht. The 'lead' of their 'mechanized/air combat mass superiority' has been transformed into the modern 'gold' of manoeuvre warfare. As is usually true, much of the theory actually derived from the practice. The speed of that first victory in Poland probably shocked the German forces as much as it did the rest of the world. In many ways, the Wehrmacht way of fighting was actually moulded by the events of that first crucible of battle, and not the other way around.

Yet a distinctive Wehrmacht style of 'lightning war' did emerge during the Second World War, that was a synthesis of two distinctive schools of thought (Fig. 7.1). The tank and its mechanised firepower did play a vital part in the rapid offensive style of operations that secured those first victories for the Reich. It was primarily Guderian, together with a few other visionaries, who had developed the armoured warfare idea during the inter-war years. It must also be remembered that the largest arm of the German Army was the infantry. Although much post-war literature has focused on the *Panzerwaffe*, due to its effective combat history, there were many critics and much resistance to this new weapon from the traditional arms, in the pre-war Wehrmacht³⁰⁶. It is obvious in Guderian's publication, *Achtung Panzer*, that he is trying to persuade the traditional corps of the utility of the *Panzerwaffe* and have it accepted as a leading arm.

Given that armoured contacts in the Spanish Civil War were largely inconclusive, the Polish Campaign was, effectively, the first battle that the German forces had fought for 20 years. Combined with the armoured concept, was a more traditional idea that would characterise how the Polish campaign would be conducted. Quite the antithesis of the commonly pontificated 'infiltration tactics', the concept that merged with the mobile firepower of the tank was not developed in the 1920s or 1930s. The core germinal precept of the Wehrmacht battle philosophy was originally conceptualised in the nineteenth century. Moltke the elder, largely in response to the improved accuracy of weaponry with the introduction of the cylindro-conoidal bullet, had warned of the futility of frontal assaults in 1869 and had advocated flanking movement³⁰⁷. From this outflanking manoeuvre had developed a revived focus, by extension, on the envelopment attack. Interestingly, this was some 45 years before the tank first made an appearance on the battlefield and some 70 years before the Panzer





forces spearheaded the advance into Poland. Based on traditional Prusso-German teaching, it espoused the virtues of the *Kesselschlacht* battle of encirclement. This idea had been elevated to an almost mystical plane, by Schlieffen before the First World War, with the institution of his 'Cannae studies'. Together with the Clausewitzian belief that the *centrum gravitatis* to destroy was the enemy's actual fighting strength, this encirclement and annihilation concept epitomised what Prusso-German strategy had been based on, since the time of von Moltke, the elder. It was this teaching, and not the infiltration tactics that had such a formative influence on the 'Blitzkrieg' style of war.

In Poland, the Wehrmacht did, what the German Army of the First and Second Reich had always done before them, or at least had tried to. They encircled and annihilated their enemy. Mechanisation and airpower now added the critical component of speed, to this traditional strategy. The Polish Air Force was effectively destroyed in the first day of the invasion, giving the Luftwaffe almost unopposed air superiority. After the rapid, five week victory over the vastly understrength and ill-prepared Polish forces, the Wehrmacht were embarked on an insidious path that would eventually lead them to destruction in Russia. At a strategic level, there was nothing inspired about the invasion of Poland. It was essentially superior firepower, multiplied by a manoeuvre advantage, that destroyed a military force which had progressed little since the First World War. Nevertheless, the attritional fighting that was engaged in during that first campaign left the Panzerwaffe depleted of up to twenty percent of its tanks.

The French Campaign was, in many ways, an aberration on the normal Wehrmacht style of war, at least at a strategic level. Despite the original plan by OKH, which was essentially just a repetition of the original 1905 Schlieffen Plan of encirclement, the actual invasion plan for France that finally materialised was quite different. Designed by Manstein and Hitler it was based on a brilliant strategic dislocation of the majority of the Allied force, deceiving them into the belief that the main effort was coming through Belgium. Its true *Schwerpunkt*, uncharacteristically, targeted an allied weakness, the Ardennes forest sector of the front. Once through the allied defences at that weak point, they continued in a huge 'sickle cut' style, right wheel to the coast. The second phase focused on pursuing the vanquished forces towards Paris. Operationally the *Schwerpunkt* was identified as the allied fight force and its destruction. Had this strategic plan not been effected, which led to the

dislocation of the allied force, it is possible that the defeat may not have been delivered. However, as with all the Wehrmacht victories, the air superiority gained early in the invasion, by the Luftwaffe, proved to be of critical advantage.

An overwhelming combat mass superiority in the Balkans campaign, allowed the Wehrmacht to generate forward momentum, integrated with good Close Air Support and again, air superiority. Fighting against a largely antiquated opposition with little armour and almost no anti-aircraft or anti-tank weaponry, it was difficult for the Germans to do anything different than amass their physical fighting power, directly, against the weak enemy physical fighting power. The German mobility advantage was used to roll the firepower forward, as the enemy crumbled. The results only served to fuel the Wehrmacht belief in offensive firepower, combined with mobility. Their manoeuvre advantage was not used to dislocate or disrupt the enemy strengths. It was only used to amass the firepower at the enemy's strength. The battle of Crete, from an operational level, was a significant battle of attrition. More and more German airborne troops were thrown at the strategically vital points, considered to be the airfields, until they were taken. Surprise was attempted strategically, but was not gained due to allied intelligence, and the losses, for the German Airborne, were so high that no large scale airborne operations were ever again attempted.

The fighting in North Africa served to illustrate the combat power that mobile firepower can bring to a battlefield. It also brought the first of the defeats for the Germans. Although Rommel's personal command style seemed to suite the desert warfare he was eventually defeated there in the very attritional, battle of El Alemein. A significant factor in the German defeats in the desert was the lack of resource support and the low priority afforded it as a theatre, by the High Command's (OKH and OKW). However the desert environment did provide good opportunities for manoeuvre, as the terrain lent itself well to tracked vehicles and the force dispositions were often easy to see. These factors, together with the fact that there are few obstacles to movement in the desert, ensured that the manoeuvre component, of the manoeuvre warfare model, was used significantly to try and deliver firepower from unexpected directions. The battles were fluid, fast and chaotic, with much energy and rapid decision cycling required by the commander. Rommel has been criticised for using Directed Control and commanding, too much from the front, although, this is claimed to be where 'manoeuvrist' commanders direct battle from. It is interesting to note that during the 1990-1991 Gulf War, some ground commanders also acknowledged the difficulty in resisting

command from the front, particularly as the battle view is so clear in the desert, and often within the commander field of vision³⁰⁸. While the targeting philosophy was still attritional, the high energy style of Rommel combined with the unlimited room for manoeuvre dictated that many elements of manoeuvre warfare were expressed in North Africa.

As a result of its size constraints, this work has primarily considered the Russian Campaign from the perspective of the initial operation, Barbarossa. The remaining operations in the campaign have been given in overview only. The campaign in Russia lasted three and a half years and, so obviously, contained many battles with different characteristics. Operationally, there was nothing unique or deceptive about the invasion itself; the battlegroups simply lined up and set off with the intention of encircling and destroying the enemy fighting force, while on the way to their ill-defined and dispersed, strategic *Schwerpunkte*. Many of the battles that developed in Russia were the traditional encirclements. However, due to the huge Soviet fighting mass and its strong tank force, the Wehrmacht were forced into more fluid battles of mobility. Much attritional fighting occurred and both sides lost incomprehensible numbers of troops. The Wehrmacht operational centres of gravity remained the enemy fighting force.

So, in summary, it seems that in some crucial areas, particularly targeting philosophy, much of the present day obsession with the Wehrmacht, as the epitome of a manoeuvrist force, is disingenuous. If the battle histories are reviewed another story emerges. In fact, it is possible to generate a model of Blitzkrieg (Fig. 7.1), which approximates the methodologies that the Wehrmacht employed during their operations from 1939 – 1945. When compared against the framework of manoeuvre warfare (Fig. 7.2), the contrast is marked. Critically, it was their approach to defining the enemy centre of gravity (their targeting philosophy), which was so distinctly Clausewitzian; their primary intention was always the destruction of the enemy fighting mass. There remain rare instances where critical vulnerabilities were targeted. Equally rare were the occasions when the defeat of the enemy was brought about through dislocation or disruption. The traditional obsession with the Schlieffenian encirclement and annihilation concept, meant that when mechanisation was added to the field of battle, it was only employed as a means to more rapidly encircle an enemy strength and douse it with firepower. That mobility advantage was not used to dislocate enemy strength or disrupt enemy cohesion. The tactical Air Superiority often enjoyed by the Wehrmacht was also primarily used to destroy fighting mass and only secondarily, to interdict. It was rarely used

to dislocate enemy vulnerabilities. Some examples of dislocation did occur though, notably, where the Luftwaffe destroyed enemy air assets while on the ground, which only served to illustrate the enormous vulnerability of aircraft, not in the air. Consequently, with the focus on destruction, the Wehrmacht fighting style became very predictable.

Much of the initial Wehrmacht success derived from its differential tempo advantage over its enemies. The Wehrmacht were the attackers, and attack has inherent advantages. Clausewitz had hailed the offense as the most decisive form of war. Attack often presents the offensive side with the great advantage of surprise and with it, the chance to preempt a battle. It can generate great chaos for an enemy and it can give an attacking force speed and momentum. With surprise comes the opportunity to catch an enemy off guard or off balance. Guderian had advocated that armour be used at speed, with sufficient breadth and depth to overwhelm an enemy with 'striking power'. His idea was to develop a 'hurricane or maelstrom of firepower'. Far from avoiding strengths and focusing on enemy weaknesses, the Blitzkrieg method was a very 'direct' application of its physical fighting power.

This formula worked well for the mobile firepower enthusiasts, against foes of lesser combat mass and inferior technology. Without recognising the limitations of that formula, the Wehrmacht could do little else. Success reinforced itself and the winning formula was repetitively applied. Eventually, something malevolent happened. The enemy changed, and suddenly, the formula no longer worked. The Wehrmacht had met a larger opposition, of mobile firepower enthusiasts, who also focused its centre of gravity on its enemy's fighting mass. If the Wehrmacht had been trying to dislocate enemy strengths, rather than destroy them through attrition and firepower, then it may have had a chance of winning. As it was, against the Russians, when fighting to Clausewitzian rules, mass won.

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Appendix: A

SOURCES OF ILLUSTRATIONS

Maps

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Map 3.1 - Taylor, A.J.P., *The Second World War*, London: Hamish Hamilton Ltd., 1975, p. 52.

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Photo 2 /3 (Chp. 3) - Delaney, J., *The Blitzkrieg Campaigns*, London: Arms and Armour Press, 1996, p. 93.

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