

GREAT CAPTAINS AND THE CHALLENGE OF SECOND ORDER  
TECHNOLOGY: OPERATIONAL STRATEGY AND THE MOTORISATION OF  
THE BRITISH ARMY BEFORE 1940

by

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## ABSTRACT

### GREAT CAPTAINS AND THE CHALLENGE OF SECOND ORDER TECHNOLOGY: OPERATIONAL STRATEGY AND THE MOTORISATION OF THE BRITISH ARMY BEFORE 1940

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No one worked harder on his own image than Bernard Montgomery, but he is rightly ranked among the most notable British Second World War commanders. Less well-known is Richard O'Connor, largely because of his own disregard for publicity. They were two very different types of personality. Both, however, demonstrated command skills and operational strategic insights which enabled them to compensate for the British Army's shortcomings in armour in 1940. They were able to use what they had - simple motorization - and adapt it away from stereotyped concepts of logistical employment, which they replaced with beneficial operational strategic utilization; Montgomery during the Flanders Campaign (1940) and O'Connor in his Libyan Campaign (1940-41). The two cases indicate that advantage in warfare does not merely rely on numbers or on superior or inferior armaments. It may have to rely as much - if not more - on the personalities of the commanders.

#### Key terms:

Military strategy; British military commanders; B.L. Montgomery; R.N. O'Connor; Military technology; Military transport & logistics; British military transport; Great Britain. Army; Second World War

## PREFACE

In this account of some operational strategic effects of the motorization of the British Army before 1940 in the hands of two outstanding commanders, Bernard Montgomery and Richard O'Connor, it has seemed best to me to adhere to a number of principles in laying out the material. Firstly, abbreviations and acronyms are spelled-out where first encountered in the text. In the matter of foreign words in the text, these are not underlined if they appear unitalicized in the Oxford English Dictionary. With regard to technical terms, they are explained in the text where this is thought necessary. Regarding the styling of military ranks, styling in the text is according to the practice of the times; thus, for example, Lieutenant-General, not Lieutenant General as today. Lastly, the text includes many direct quotations from written documentary material and interview tapes but obvious errors have been corrected and minor confusions clarified.

I owe particular thanks to two people; to my supervisor, Professor Deon Fourie, for his unfailing kindness and support over the past number of years and to my brother, Dr. John Forrester, University of York, U.K., for his constant support and encouragement.

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## CHAPTER 1

### INTRODUCTION: THE PROBLEM AND ITS SETTING

#### 1.1 The British Army's First Order Technological Deficit, 1940

Between the two world wars there was an expectation among some military writers and soldiers with a desire to modernize the British Army that armour should be developed so as to become the predominant arm of the Army. There was a wide divergence of views on the subject of Army modernization in the British Army in this period. What Luvaas, for instance, describes as: "that devoted band of tank enthusiasts who improvised, experimented, planned, exchanged views and information, and fought by whatever means available to overcome the Treasury, conservatism, and apathy in order to create the armoured force of their dreams" was, as Bond emphasises, never a numerically large group.<sup>1</sup> In addition to J.F.C. Fuller and B.H. Liddell Hart, it included (as they afterwards became; at this time middle-ranking officers) Lieutenant-General Sir Charles Broad, Major-General Sir Percy Hobart, and Sir Frederick Pile. For Larson, the crucial fact to remember about Fuller and Liddell Hart's theory of armoured warfare is that it was far more than a new set of ideas formulated simply to maximize the capabilities of tanks, it was a comprehensive philosophy of war explicitly designed to destroy the theoretical and practical foundations of the strategy of attrition.<sup>2</sup> However, there were several reasons why the British Army did not concentrate on establishing the armoured force for which these 'modernists' hoped. There was optimism that a new era of peace was possible, that there should

be no more Passchendaeles. Amongst these reasons were failure to perceive the threat posed by the rise of totalitarian nationalism in Germany, fear that rearmament would initiate an arms race that could antagonise Germany into starting a war, the conservatism of dominant personalities in the War Office, and also competition with the Royal Navy and Royal Air Force for such limited funds as were available. Although there was more to failure to rearm than public 'mood', public opinion was in the main wedded to the ideal - illusion - of peace by disarmament.<sup>3</sup> Churchill's Chief of Staff in his capacity as minister of defence was General Sir Hastings Ismay. Though insufficient alone as a source, Ismay's description of the War Office in this period as: "hidebound, unimaginative, impersonal and over-populated", can be used as illustrative of the view that the War Office was unimaginative and indecisive.<sup>4</sup> In 1919 the Government instituted the 'Ten Year Rule' for defence spending, stating that: "it should be assumed for framing revised estimates that the British Empire will not be engaged in any great war during the next ten years".<sup>5</sup> Financial restrictions intensified a stagnation which affected the whole character and spirit of the Army. The British Army's failure to develop a settled, cohesive doctrine of mechanised, armoured warfare resulted in 1940 in a lack of armour capable of deep strategic penetration. Coupled to this were major shortcomings with respect to the firepower, protection, and mobility of many of the most important types of British tank until at least 1943. The failure to develop an adequate principal gun, the reluctance to move from rivetted to cast or welded construction, and the failure to develop a standard engine of sufficient power meant that Britain's principal gun-tanks - the tanks intended to actually engage and defeat enemy tanks - had significant shortcomings that emphasised the British Army's deficit in first order technology.<sup>6</sup>

However, there were improvements to 'motorized' means of movement and supply, and in the measure in which force could be moved and maintained in the inter-war period.

This meant that by 1940, the British Army was no longer dependent on horse transport. Bond comments: "it was ... to the War Minister's [Hore-Belisha's] credit that a field force of five divisions was wholly motorized (i.e. not dependent on horse transport) and ready to be sent to France soon after the outbreak of war."<sup>7</sup> From the 1920s, there had been a concerted effort at the Royal Army Service Corps (R.A.S.C.) Mechanical Transport School, Aldershot to improve vehicle mobility and, by the early 1930s, specialized military off-road vehicles were emerging as a distinct group of designs.<sup>8</sup> This was unlike the German Army which, although it developed a modern tank force, entered the Second World War with a large proportion of its logistics and artillery still drawn by animals. In 1940 the bulk of the German Army was less motorized than many others; animal power being used by the Wehrmacht to move men, equipment, supplies, and artillery. Waffen-SS units were, however, fully motorized, and it is possible that the Wehrmacht's acceptance of the SS in a fighting role was due, to some extent, to its need of SS transport. For Van Creveld: "the army that was to shake the West was a scavenger. Its hopes for victory rested in part on the capture and utilization of French, Dutch and Belgian vehicles".<sup>9</sup> With reference to the history of Germany's tank force, General F.M. von Senger und Etterlin makes the point: "this modern element would constitute a 'second tier' army within the old army, capable of operating in new dimensions of time and space and independent of the main mass which proceeded at the pace of the footsoldier".<sup>10</sup> Thus, the British Army, its early tank lead discarded, had a capability of moving by unarmoured vehicle that gave it a notional capacity to compensate for its shortcomings in armour.

Nevertheless, according to the enthusiasts for armour there could not be any substitute for a large, modern, tank force. The evidence seemed to support this view, for example the British employed tanks in 1917-18 to restore mobility on the Western Front. Further, 'Blitzkrieg' - the mode of warfare employed by the German Army against

the Polish Army in 1939 - was led, on the ground, by tanks. Furthermore, theoretically, the writings of such military commentators as Fuller and Liddell Hart supported this contention. The theoretical content of the problem which existed in 1940, is, therefore, that when a significant relationship might fairly be assumed between capital technological advantage and capability in war, it is necessary to consider the relationship of various orders of technology to the successful prosecution of military operations.

Outstanding commanders - it is suggested that R.N. O'Connor\* and B.L. Montgomery\*\* were two of great importance - realised that the solution to this problem lay only partly in attempting to comprehend the potential significance of developments at unstable military technological frontiers. Perhaps more importantly, to them it lay in acknowledging the significance of apparently more mundane military technological changes not only for tactics but also for operational military strategy. These changes would need only to be understood and brought to an adequate level of efficiency.

The research problem can thus be boiled down to perhaps two questions. It may be fairly assumed that high technological advantage and capability in war have a significant relationship. Nevertheless, evidence from the conduct of the campaigns in France and Belgium and

\*O'Connor, General Sir Richard, 1889-1981. British commander, Western Desert Force, 1940-41, GOC-in-C, British Troops in Egypt, 1941, February; captured and imprisoned in Castle Vincigliata, near Florence, 1941, April; escaped, 1943, September; commander: VIII Corps, North-West Europe, 1944-45; later Adjutant General to the Forces, Commandant of the Army Cadet Force, Scotland, Colonel of the Cameronians (Scottish Rifles), Lord Lieutenant for Ross and Cromarty.

\*\* Montgomery, Field Marshal Viscount of Alamein, 1887-1976. British commander, 3rd Division, France, Belgium, 1939-40; various commands, Home Forces, 1940-42, including Southeastern Army; commander: 8th Army in North Africa, 1942-43, and Italy, 1943-44, 21st Army Group, North-West Europe, 1944-45; later CIGS, Commander NATO forces in Europe, author.

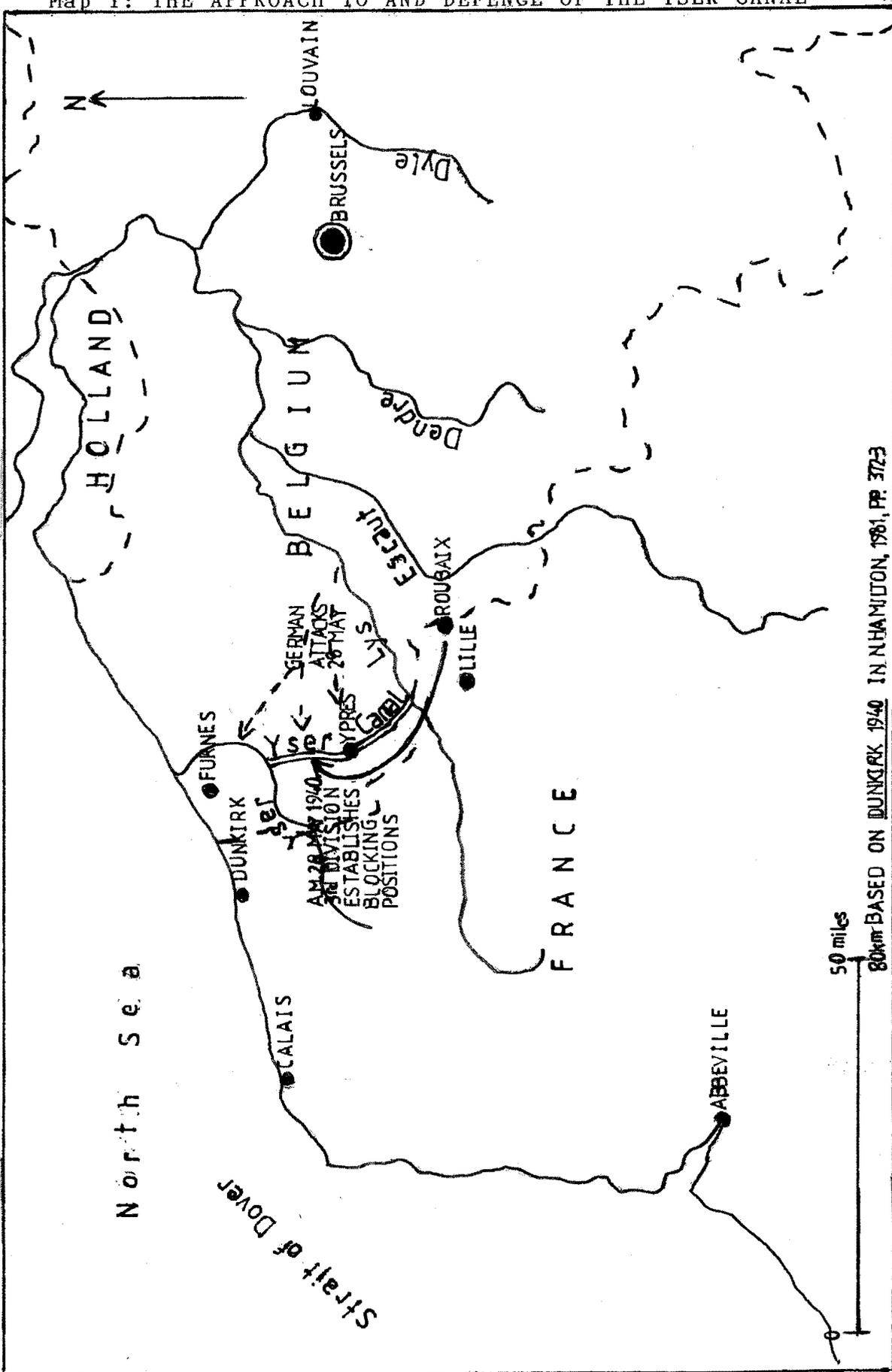
Egypt and Libya in 1940 points to its being possible for a commander to be successful with what may be called second order technology against an enemy that has apparently decisive first order technological advantages. Is it possible, therefore, for a commander to use second order technology to achieve the capacity for success in operations? Indeed, did certain British Army commanders' employment of an improved troop-carrying capacity to successfully enhance their operational capabilities early in the Second World War, reveal that a commander may achieve the capacity for success in operations with second order technology against an enemy which has seemingly decisive technological advantages? If so, what are the conditions that would enable the commander relying on second order technology to gain an advantage over his technologically superior enemy?

#### **1.1.1 Commanders, Technologies and Solutions, 1940-41**

Did Lieutenant-General R.N. O'Connor's and Major-General B.L. Montgomery's use of 'motorised' means of transport and mobility to achieve strategic advantages in operations in France and Belgium, Egypt and Libya, during 1940-41, suggest that it may be feasible for a commander to employ second order technology to prosecute successful military operations against an enemy with an apparently decisive technological superiority? The foundation of this first subproblem is set out in the brief narratives that follow.

Bredin recounts a tale about Montgomery's taking over the 8th Division in Palestine at the end of 1938, "an Irishman among Irish soldiers". He told them on a visit to the headquarters of the 2nd Battalion, Royal Ulster Rifles: "The war will come next year - 1939. We shall fight the Boche, yes, the Boche. I have told the Military Secretary I will command the 3rd Division and take them to France and you, yes you and your Battalion, will come

Map 1: THE APPROACH TO AND DEFENCE OF THE YSER CANAL



50 miles  
80km BASED ON DUNKIRK 1940 IN N. HAMILTON, 1961, PP. 372-3

with me."<sup>11</sup> This was, as is now clear, a remarkable prophesy. On 1st September 1939 the German Army invaded Poland; two days later Britain was again at war with Germany; the 2nd Battalion, R.U.R. did form part of 'Monty's' command: 3rd Division, II Corps, British Expeditionary Force (B.E.F.).

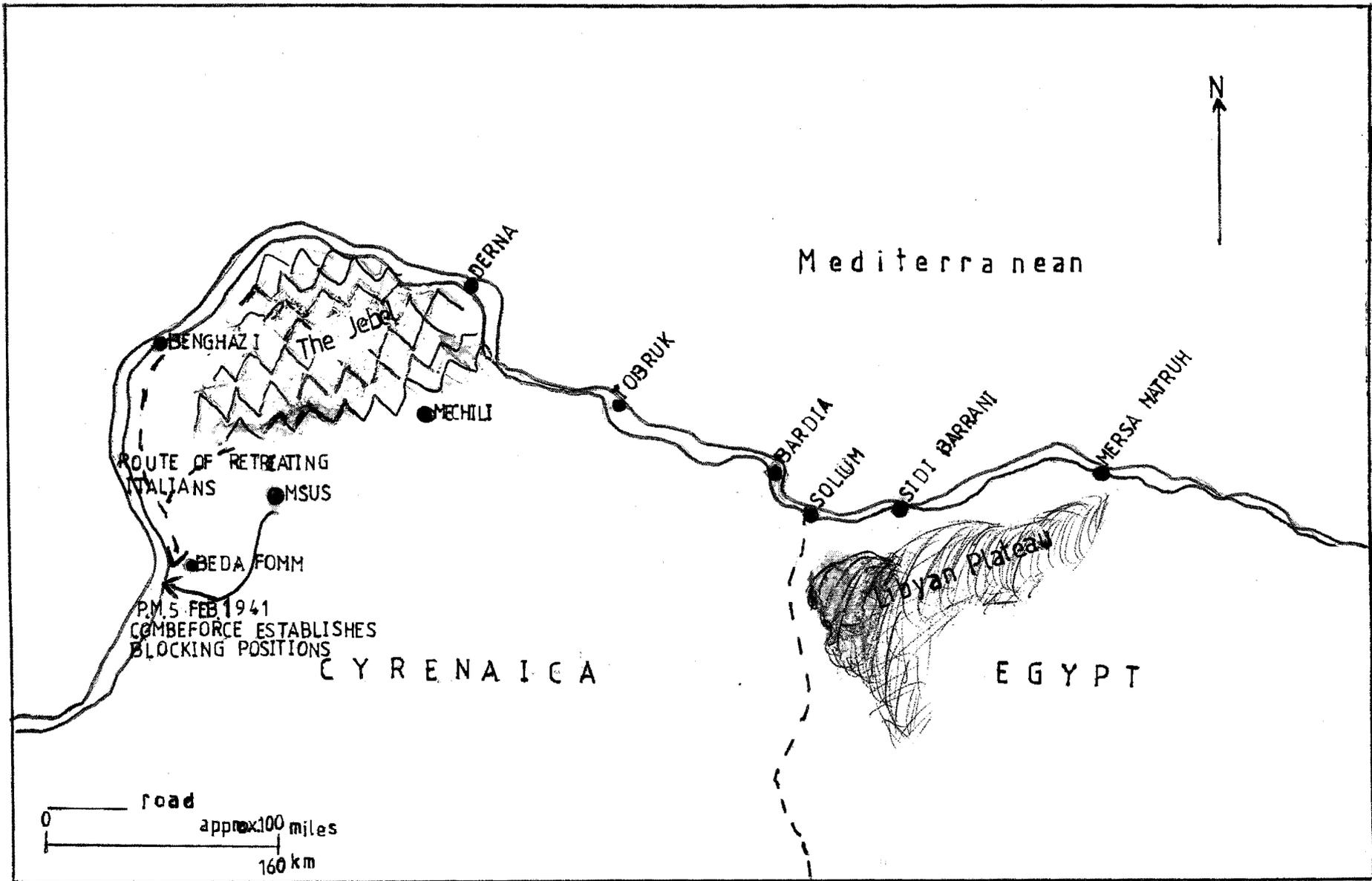
Anticipating that the decisive German attack would, as in 1914, come through neutral Belgium, Allied operational strategy (Plan 'D') determined that, at the first indication of attack, Allied troops - to include the B.E.F. - would advance sixty miles into Belgium to the River Dyle. However, the German operational strategy in its final form ('Sichelschnitt'), determined that, in the north, Army Group 'B' would advance into Holland and Belgium so as to draw as much of the Allied strength as possible to its front. In the south, Army Group 'C' would stand on the defensive facing the Maginot Line. In the centre, however, Army Group 'A', allocated the bulk of the German Army's armoured forces, would attack through the forests of the Ardennes, destroying the centre of the Allied front and cutting the Allied forces in two.<sup>12</sup>

On 10th May 1940, Germany launched its offensive in the West; the B.E.F. advanced into Belgium; and battle was joined. German armour, achieving the deep strategic penetration of the Allied centre envisioned in 'Sichelschnitt', placed the B.E.F., now retreating on Dunkirk, in a dangerous position when, having reached the French coast at Abbeville, the Germans turned to seize the Channel Ports to the Allies' rear. On the 27th the Belgians' decision to lay down their arms made this situation one of deadly peril. But, at short notice, Montgomery, in a night move by mechanical transport (M.T.), was able to re-position his division and establish an eastern defensive flank for the B.E.F.: "a task", wrote the commander of II Corps, Lieutenant-General Alan Brooke, "that might well have shaken the stoutest of hearts, but for Monty it might just have been a glorious picnic!"<sup>13</sup>

Monty's manoeuvre on the night of 27th May - he had trained his division for just such a manoeuvre because

his professionalism had led him to expect disaster - helped a large part of the B.E.F. to escape encirclement and to get to Dunkirk in sufficient time to be evacuated to Britain to fight another day. The port remained in Allied hands until 4th June, by which time some 337,000 British and Allied troops had been evacuated.

In late 1938, Palestine received another Irish general: O'Connor. When Montgomery left to command a division in Europe, O'Connor remained in the Middle East. He was in command of Western Desert Force - the small British and Commonwealth force facing the Italian colony of Libya - when, in June 1940 Italy entered the Second World War. The main fighting element of the Western Desert Force (from 1941, January, XIII Corps) comprised the 7th Armoured Division (Commander: Major-General M. O'M Creagh) and the 4th Indian Division (Major-General N.M. de la P. Beresford-Peirse) [replaced 1941, January, by the 6th Australian Division (Major-General I. Mackay)]. The Support Group, 7th Armoured Division, included two motorized infantry battalions: 2nd Battalion, The Rifle Brigade, and 1st Battalion, The King's Royal Rifle Corps.<sup>14</sup> Italy's entry into the War seemed to dangerously threaten Britain's position in the Mediterranean, the Middle East, and North Africa. On 13th September 1940 the Italian 10th Army crossed the Egyptian frontier and advanced some sixty miles towards Sidi Barrani, then halted and built a series of fortified encampments. The Italian forces (Forze Armate) in North Africa, commanded by Marshal Rudolpho Graziani, consisted of the equivalent of fourteen divisions organized into two armies. The 10th Army (Commander: General Mario Berti) [replaced 1940, December, by General Giuseppe Tellera] was the one immediately facing O'Connor. Farther west, in Tripolitania, was the 5th Army (General Italo Gariboldi) of about the same strength and Forty states that the Italians used their 5th Army to reinforce the 10th.<sup>15</sup> The British Commander-in-Chief, Middle East, General Sir Archibald Wavel felt that a limited offensive against the Italians was a viable proposition. The operational commander would be O'Connor. Codenamed



Map 2: THE ADVANCE TO AND BATTLE OF BEDA FOMM

Operation 'Compass', the operation was to be a five-day raid to destroy the enemy's bridgehead in Egypt.<sup>16</sup>

After careful reconnaissance, in great secrecy, the British force moved into position on the night of 8th December 1940. The 4th Indian Division was to break through the Italian defences at Sidi Barrani and then press ahead along the coast road; the 7th Armoured Division was to operate on the open southern flank in a series of wide-ranging out-flanking movements. Taken completely by surprise, the Italians fell back in disarray, and, in a matter of days, had been expelled from Egypt.

O'Connor was determined to advance into Cyrenaica, the eastern province of Libya. On 5th January 1941 the coastal fortress of Bardia fell to O'Connor's forces; the 7th Armoured Division having deployed into the desert to block all Italian escape to the north and northwest, some 40,000 Italians were taken prisoner. Next to fall was Tobruk, the major port of eastern Libya; Italian resistance was stronger than that encountered previously, but by 22nd January the town was in British hands.

Once Tobruk had fallen, it was decided in London that operations in the Western Desert should be subordinated to the need to aid Greece, now threatened with German attack. The capture of Tobruk had not, however, lessened the momentum and need to consolidate O'Connor's advance. The need to relieve the strain on his transport of moving troops and bringing up supplies of petrol, oil, food, and ammunition over such immense distances of desert was met to some extent by pressing into service hundreds of Italian vehicles captured at Tobruk. O'Connor saw a chance to destroy the Italian 10th Army in its entirety. If he continued to advance along the coast he would certainly push the enemy out of Cyrenaica. But if instead he sent 7th Armoured Division across the desert to the coast, ahead of the rapidly retreating Italians, he might forestall a successful Italian withdrawal to Tripolitania (the western province of Libya) and thus prevent the survival of a significant part of the Italian 10th Army.

An Australian force (6th Australian Division had replaced

4th Indian Division) harried the Italians out of Derna (which fell on 30th January), while British tanks and armoured cars, lorried infantry and guns drove across the desert, through Mechili, to Msus oasis. Creagh, commanding the 7th Armoured Division, believed his force might well be too late to complete the south-eastern envelopment envisioned by O'Connor. He ordered a wheeled force - Combefore, led by Lieutenant-Colonel John Combe, C.O. of the 11th Hussars - to race ahead of the tanks and cut the coast road south of Benghazi as soon as possible. Arriving to join Creagh at Msus, this decision was endorsed by O'Connor.

Just after midday on 5th February 1941 Combefore reached the coast road some ten miles south of Beda Fomm. In mid-afternoon the vanguard of the first Italian column appeared and the battle of Beda Fomm began. The Italians tried to break through. They failed.

O'Connor's chief of staff, Field Marshal Lord Harding (as he became) said of O'Connor's achievement that: "it was his skill in calculating the risks and his daring in accepting them that turned what might have been a limited success into a victorious campaign ... ."16

'Compass' precipitated German intervention in North Africa and not for a further two years would the prize of Tripoli, the capital of the Italian colony of Libya, fall to the Allies. However, the success of 'Compass', and its subsequent exploitation - the first British strategic offensive of the Second World war - allowed the British Army to show, after the drubbing it had received at Dunkirk, its true worth, in the hands of an outstanding, imaginative commander.

The second subproblem thrown up by the initial research question is: if the applications of motorisation by generals Montgomery and O'Connor suggest a positive determination as to whether it is viable for a commander to employ second order technology to realise the capacity for success in operations, even against a technologically, materially, and numerically superior enemy, what conditions permit the creation of a strategically advantageous situation,

untenable for the enemy?

O'Connor and Montgomery were 'Irish'. They did not come from what might be termed 'aristocratic' backgrounds. They were close personal friends. In the professional sphere, both were infantrymen. Neither had been strongly aligned with one faction or the other in the debates on mechanization between the wars. Both were thoughtful officers, however, who appreciated the strategic shortcomings revealed in the First World War but were largely content to work for improvement in their own arm and areas of experience. The growing mechanical reliability of road vehicles in the inter-war period and developments with respect to their ability to traverse difficult terrain offered new possibilities for operational strategic flexibility, that Montgomery and O'Connor were to show themselves able to exploit.

But there were differences. Montgomery was using lorries, light utilities, cars and carriers to implement a defensive operational strategy of a fighting withdrawal. Vehicles had a well-established road network to operate upon. O'Connor used a wide variety of vehicle types to support an offensive operational strategy of a large-scale raid which developed into long-range pursuit. The difficult terrain made it clear, for example, that henceforth, tank transporting would be an essential part of the mobility of armoured forces in North Africa.

The leadership of Montgomery and O'Connor, particularly their command skills and operational strategic insights with respect to the employment of second order technology in these two cases, gives rise to the hypothesis for this study which is: **that in war insight, imagination, initiative, originality, and dynamic leadership may enable strategic advantage to be achieved with second order technology despite an enemy's technological primacy.**

## 1.2 The Methods of Research

At this point, some indication as to methodology is intended: this involves establishing what is relevant research data and the nature of such data; criteria for the admission of relevant data into the research design; and the appropriate research methodologies.

Study of any part of the Second World War is not always served by an attempt to impose an absolutely precise positioning in time on the period selected for study. The scope of this research requires movement backwards and forwards in time: back to the problems of re-equipping and expanding a neglected Army, and forward, through May-June, and December 1940 - which saw, respectively, the withdrawal to, and evacuation of, part of the B.E.F. from Dunkirk, and the commencement in North Africa of the first British strategic offensive of the Second World War. Data is used from the period 1919-39 and the years 1939-45, where appropriate, but is principally required from 1940 and 1941.

The following was required: data on the military careers of Field-Marshal Viscount Montgomery and General Sir Richard O'Connor, with particular reference to Montgomery's command of 3rd Division, II Corps, B.E.F., 1939-40, and O'Connor's command of the Western Desert Force, 1940-41; the actual course of military operations in France and Belgium following Germany's attack on France, Belgium, and Holland, 1940, and of Operation 'Compass' against the Italian 10th Army, December 1940-February 1941; and the most important developments with respect to the motorization of the British Army to 1940.

The United Kingdom Public Record Office, Kew, is the principal repository for the records arising from the administration and command of the British Army in the period treated of in this dissertation.

The Imperial War Museum is a repository for documentary records of all types which record all aspects of the two world wars and of military operations involving Britain

and the Commonwealth since 1914. These include one of Britain's largest collections of British private papers, among which are the diaries, correspondence, and other writings of Field-Marshal Viscount Montgomery of Alamein.

The Liddell Hart Centre for Military Archives, King's College, London, holds a growing collection of the private papers of 20th century senior British officers: here are to be found the papers of General Sir Richard O'Connor KT, GCB, DSO, MC.

The Museum of (British) Army Transport, Beverley, North Yorkshire, has been an important source of information on improvements in technologies of military transportation associated with the development of the internal combustion engine. The re-evaluation of tactics and strategy (when coupled with outstanding generalship) which necessarily followed these technical developments is this dissertation's theme.

Much of the data is neither published in print nor by electronic means. This necessitated these data sources to be accessed by personal visits.

Spencer Wilkinson, first Professor of the History of War at Oxford, said that the first task of the military historian was the sifting of the evidence with a view to the establishment of the facts. As Howard points out, however, this objective may be easier to state than it is to achieve.<sup>17</sup> Kerlinger states that the precept of the primary source is a good one for the historical investigator.<sup>18</sup> For this dissertation's purposes, it is considered that this precept is applicable to the private papers of Field-Marshal Montgomery, General O'Connor, and others, and that the precept of 'primary-ness' can validly be extended to include personally narrated accounts of events (where sound records or transcripts exist), and to published material of either principal protagonist which relates to the dissertation's subject matter. Reports of events, operations orders, intelligence summaries, and so on, in the records of the War Office and related departments are also considered primary sources.

The methodologies which most lend themselves to the

rigorous research of the problem are primarily the Historical Method for the examination of subproblem one and primarily a comparative methodology for the inquiry into subproblem two.

The historical method in social-scientific research is the attempt to solve problems arising out of a historical context through gathering and examining relevant data: it permits collection, evaluation, and interpretation of data: in other words, it provides a framework within which the facts can be placed so that their meaning can begin to be seen more clearly. Fourie points out that there is little doubt that history provides an important foundation for the study of strategy.<sup>19</sup> Gilbert ascribes the appreciation of the value of military history to the work of Clausewitz (1780-1831), who identified the relationship between battle and war and between war and the general policy of the state.<sup>20</sup> Hence, if war were to be undertaken as an instrument of policy, and Clausewitz maintained it had to be, military history had to instruct those who employed war both in the utility of war and in the manner in which it should be conducted. The manner in which it is to be conducted relates naturally to strategy, and hence to Strategic Studies.

Howard, following Delbrück, notes the dangers for both the service person who turns to history and the academic who turns to military affairs.<sup>21</sup> Military History attempts to avoid these pitfalls, through the use of the Historical Method.

The hypothesis for this research suggests that a non-linear, dynamic relationship exists between technology, strategy and the outcome of war. The capacity for success in war is not reducible merely to technological advantage; nor solely to the attributes of a particular commander. Yet, it may be fairly assumed that high level technological advantage and capability in war have a significant relationship. Military history, however, can also show the contrary: that the military advantages conferred by high technology are transitory against an adaptive and resourceful opponent. 'Technological factors' and

'commanders' decisions' do not belong in separate conceptual 'black boxes'; the outputs of their interaction influences the formulation of strategy, which may or may not achieve the desired outcome: successful military operations.

Howard remarks that the military historian knows what is victory and what defeat, what is success and what failure; that when activities constantly recur, and their success can be assessed by a straightforward standard, it does not seem over-optimistic to assume that we can make judgements about them and draw conclusions which will have an abiding value.<sup>22</sup> The British Army's capability, early in the Second World War, of moving by vehicle is used in this research to establish a notional capacity to compensate for its shortcomings in armour and lack of a large, modern, tank force.

Montgomery wrote that a military commander must decide in his own mind, and before the battle begins, how he wants operations to develop; he must then use the military effort at his disposal to force the battle to swing the way he wants. This involves unbalancing the enemy by manoeuvre.<sup>23</sup> Having established that motorization of the British Army to 1940 notionally offered resourceful commanders means to mitigate problems of military technological lag, how O'Connor and Montgomery each exploited this, by strategic manoeuvre, to unbalance technologically superior enemy forces, will be treated of. The initial, first, problem, then, involves testing the hypothesis by evidence, confirmatory or otherwise, from the data.

The resolution of subproblem two calls not so much for further data as for more comprehensive interpretation. The Comparative Method is one of the basic methods of discovering empirical relationships among variables in scientific research; 'comparable' means similar in a large number of characteristics, or variables, which one wants to treat as constraints, but dissimilar as far as those variables are concerned which one wants to relate to each other. Some of the significant similarities, and differences, with respect to the two cases of the application of motorization selected for consideration

have already been highlighted.

Some delimitations must be made in order to operationalize this research. The first delimitation is that while logistics can be construed to include all activities involved in the administrative support of an army, this dissertation will focus on 'transportation' and movement in operations.

The second delimitation is that the movement of forces by sea or air shall not generally be considered in the dissertation.

The third delimitation is that by virtue of the empirical content of the case study the movement of forces by rail is not of concern either. The theoretical content of the research problem demands consideration of lessons drawn from parallels with the development of the employment of the steam locomotive which enabled mass armies to be moved rapidly to frontiers and sometimes even laterally during the nineteenth and early twentieth centuries.

The term first order technology in the context of this dissertation denotes tanks and all other armoured fighting vehicles, acquired by an army, for the purpose of affording mobility and offensive power in military operations through application of techniques of armoured, mechanized warfare; 'second order technology' describes the lorries, trucks, cars, and other vehicles, including specialist vehicles, available to improve mobility in military operations.

The term motorization may be defined as a school of thought, line of development, or policy with respect to the employment of means of transport and movement utilizing the internal combustion petrol engine - usually unarmoured lorries and cars - for the purpose of providing, or improving, mobility in military operations.

The term logistics, for the purposes of this dissertation, will be taken to mean: "the practical art of moving armies and keeping them supplied".<sup>24</sup> The importance of 'transportation', covering transport for all methods of movement and supply, must be implicit in any definition of logistics.

Some assumptions must also be made throughout this

dissertation. The first of these is that it is assumed that a commander's operational concept - his design of the way in which a military force, specifically allocated to a particular operation, is used to create a military situation that ideally will be either untenable for the enemy or most advantageous for himself may be influenced by technology. Technology may affect the nature and quality of resources available to him in support of his overall aim.

This study is also premised on an assumption that if the selected applications of motorization are compared and contrasted, significant conclusions should be possible with respect to relationships between various orders of technology and resourceful commanders' capacities for success in war.

### **1.3 Conclusion: The Importance of the Study**

Fourie writes that, by the centenary of Waterloo the internal combustion engine had provided the ability to move freely away from railway lines and indeed, to fly over other armies, and that all these changes were significant not only for tactics but also for operational military strategy and needed only to be understood and brought to an adequate level of efficiency.<sup>25</sup> This research on two commanders' exploitation, through strategic manoeuvre, of the potential for mobility and flexibility conferred by improved technical means of troop-transport tests the hypothesis that, with outstanding generalship, second order technology may be used to attain strategic advantage despite an enemy's technological primacy. This study of two great commanders' applications against all odds, of the techniques of motorization, will contribute to applied research in Strategic Studies with evidence or otherwise of the generalizability of Fourie's proposition.

Flowing from the hypothesis, the following factors need to be examined - and therefore constitute the remaining chapters of this dissertation.

A literature study - classifying and analysing related literature for concepts and approaches to provide a theoretical basis for this research and reviewing the background literature synoptically for empirical evidence of the existence of technological-strategic relationships - follows this, the first chapter. Chapters One and Two, together, constitute a framework for analysis and interpretation.

In Chapter 3, the British Army's failure to pursue development of an independent armoured force, but to favour instead improving its traditional arms' capabilities of movement by unarmoured and lightly armoured vehicle, and how the protagonists viewed all this, is detailed.

Chapter 4 introduces the military careers, to 1940, of Generals B.L. Montgomery and R.N. O'Connor. It appraises their leadership strengths and assesses the relevance of their earlier military experiences for the understanding of motorization which they would demonstrate in 1940.

Chapter 5 is devoted to the two cases: how Montgomery and O'Connor each exploited the improved capabilities of the means of transportation and movement available to them to enhance their capacity to act strategically, and unbalance technologically, materially, and numerically superior enemy forces.

These 'isolated incidents' were not lucky chance but substantiated Montgomery's and O'Connor's command skills and were applications of their operational strategic insights with respect to the employment of second order technology. In Chapter 6 an explanation is offered of how O'Connor and Montgomery achieved strategic advantages.

This is followed by the final chapter which concludes as to the relationship of the thoughtful use of second order technology in the absence of an adequate armoured force and the advantages achieved in the two cases. It finds that effective responses were possible by imaginative, progressive, thoughtful commanders.

## ENDNOTES TO CHAPTER 1

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15. Colonel Forty comprehensively treats of the Italian Army in Libya in The First Victor: General O'Connor's Desert Triumph (Tunbridge Wells: Nutshell, 1990), pp.24-43.

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23. Field-Marshal Viscount Montgomery, A History Of Warfare (London: Collins, 1968), p.22.

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## CHAPTER 2

### OPERATIONAL STRATEGIC APPLICATIONS OF SECOND ORDER TECHNOLOGY: A REVIEW OF THE RELATED LITERATURE, 1918-40

#### 2.1 Introduction

It would be useful to review at this point the various intellectual trends in the writings of the inter-war period on the subject of the operational strategic effects of second order technology in land warfare, to highlight this work's unique perspective.

In the period which saw the development of the railways, the steam locomotive had enabled militarily capable powers to move their mass armies to frontiers and sometimes even laterally. The evidence for the operational significance and consequences of applications of permanent way technology to problems of mobility in the nineteenth and early twentieth centuries is reviewed. Parallels from how commanders employed the steam locomotive to move troops quickly provide a theoretical basis or background for an analysis of the assumptions and approaches of strategists, commanders, and commentators in the 1920s and 1930s to potential applications of second order automotive technology in the strategic movement of forces. The most straightforward way to proceed is to classify the writers along national lines, then analyse the writings in terms of writers' concepts for notional uses of motorized transport for the strategic movement of forces.

It is particularly important to see where O'Connor and Montgomery stood. An attempt is made to determine whether either had ever investigated the strategic employment of lorries or other motor vehicles, or written anything published or unpublished, and the sources of

influences on their thought.

Finally, the various approaches are synthesised so that one can see the different ways practitioners writing between the two world wars made an attempt to consider additional, strategic, or alternative roles for motorized transport. The conclusions, about what people were writing in the literature that appeared during those years, provides a theoretical basis which further sets the context for the examination of the data of this research.

## 2.2 Classification and Analysis

Second order technology has affected strategy at the operational level throughout military history. "New means of transport and communication," it has been suggested, "have changed the ability to project power."<sup>1</sup> Tempting as it is to go back over the vast, extraordinary heterogeneity of transport great commanders have used to enhance their capacity to deploy military force, the most important analogy in the development of modern military transportation prior to motorization, for the purposes of this dissertation, was probably commanders' use of railways to move their large armies over great distances.

It is worthwhile to consider what the literature has to say concerning the thinking and practice of American and Prussian generals during the period which saw the development of railways, as well as to determine what actually happened and to contrast prior views with actual experience. Sinclair's Arteries Of War, Macksey's Technology In War, and Van Creveld's Supplying War in particular have insights into rail transport in military history.<sup>2</sup>

Union commander, William Tecumseh Sherman said his Atlanta Campaign (September-December 1864) in the American Civil War (1861-65) would have been an impossibility without the railway to keep him supplied.<sup>3</sup> Railways gave an immense

new mobility to the armies. It was however the Confederates who most depended on the railways. But when in 1862 they wanted to move troops quickly from east Virginia to the Shenandoah Valley to exploit the victories of Stonewall Jackson they were unable to quickly enough because of a lack of rolling stock. The Confederate commander, Robert E. Lee also attempted to use railways to shift Jackson's army suddenly from the Shenandoah Valley to Richmond, which was being threatened by Union commander, George McClellan in his Peninsula Campaign (March - July 1862). Lee had soon realized that, for reasons which included his forces' numerical disadvantages, their only hope of victory lay in rapid concentrations of their entire strength against one or other part of the Union Army. For this they needed to take full advantage of their interior lines of communication; that is, of their railways. However, Confederate commanders were not able to achieve the coordination desired by Lee and McClellan was able to parry the attempt to force him to a decisive battle at Mechanicsville on 26th June 1862.<sup>4</sup>

For Count Helmuth von Moltke, Chief of the Prussian General Staff during Prussia's wars for German unification (1864, 1866, 1870-71), railways were an essential instrument for the conduct of war. Like Lee, Moltke also assumed the importance of concentration and the advantage of interior lines and his strategies gave railways a similarly important role. His prior thinking on the military importance of railways derived from his hypothesis that as Prussia's army was not entirely a standing force (being partly standing/conscript and partly reserve called to form shadow divisions), the Prussian Army would always, initially, be outnumbered. Railways could be used to compress space and time, enabling sufficient forces and resources to be prepared, mobilized, concentrated, deployed, and moved. However, it has been suggested by Van Creveld that, in the campaigns of 1866 and 1870-71, the deployment and movement of Prussian forces was influenced less by strategic considerations than by factors such as the geographical configuration and the capacity of the

railways.<sup>5</sup>

As revealed in the professional literature, much of British military interest in automotive technology between the two world wars was associated with practical questions relating to the extension of its uses in logistics and with enhancing the infantry's mobility at the level of major warfare, but also at the level of small wars of colonial peacekeeping.

The British Army's interpretation of the lessons of the First World War may be summarised as the belief that ultimate Allied victory, however costly, had completely vindicated the strategy of attrition and that this doctrine, therefore, should be strictly maintained in the army's future planning. This interpretation was supported in the multi-volume series, the Official History Of The Great War, implicitly the national account of Britain's involvement in the First World War. The volume, Transportation On The Western Front 1914-1918 was compiled to show some of the principal transport problems which arose on the Western Front, the origin, growth, and general organisation of the services set up to deal with those problems, and the rise of a number of separate services connected with transportation which were amalgamated into a single service called Transportation.<sup>6</sup> The series was and continues to be the subject of considerable controversy.

Throughout the inter-war years, the British Army supported five major professional journals: Journal of the Royal United Service Institution(inter-service), Army Quarterly, Cavalry Journal, Journal of the Royal Artillery, and Journal of the Royal Engineers. These were much more than 'regimental' publications devoted to promotions, sports, and social life. All were seriously interested in lessons to be learned from the Great War and in the strategic problems facing the Empire.

An important problem with which the British Army had to contend in the First World War, particularly on the Western Front, arose from the fact that, while the artillery eventually had sufficient guns and shells, guns had developed into new categories. They were now often

howitzers - to fire shells through high trajectories into the enemy trench system - and medium or heavy guns - used to fire the kind of heavy, high explosive round intended to break up the enemy's defences. To move such guns was quite beyond the traditional horse team. Better mobility for larger weapons and their heavier ammunition, and more rapid deployment were key factors: either rail or motorization could be solutions. A highly developed rail network enabled movement and resupply behind and near the Front. Though horses, mules, and light railways were often used to take ammunition up to forward battery positions, in forward areas motor transport came into its own, vastly increasing the amount of ammunition which could be brought up. The substitution of motor vehicles for animal traction to move guns was one of the important lessons of the First World War drawn by British artillerymen. As one writer put it in 1939:

From the beginning of the Great War it was plain that modern motor transport had made it possible to use far larger guns in the field than ever before, those known as "heavies", which could not be dragged by horses and had, therefore, scarcely been used except in fortresses for defensive purposes.

On the Western Front the warfare had in large measure been static and attritional. The provision of better logistical supply to the front lines had been another significant problem. Although rations and stores usually had to be manhandled into the trenches mechanical transport was employed to vastly increase the amount of supplies which could be brought forward from railheads to troops in the front line. As described in the Journal of the Royal United Service Institution in 1933:

The masses led and administered were mainly stationary, while to supply them ... there were swiftly speeding, large-capacity carriers - railway truck and lorry. This was no war of distances.

Now, material could notionally be moved by mechanical transport in greater quantities but at several times the speed of the horse-drawn vehicles previously used:

Administration in the forward areas of mobility, ahead of the railhead, has raised its functions off the ground, and now demands transportation on wheels for them. Wherever the petrol engine enters the field, replacing the animal, we see greater load-carrying, much more speed, and less attendant personnel, while every increase in its efficiency connotes ipso facto a yet further decrease in this personnel, as is occurring daily in industry and commerce.

How would infantry move on a future battlefield? This was another problem facing British strategists and commanders in the 1920s and 1930s. The Army's initial understanding of the role of the unarmoured transport vehicle in relation to this problem was outlined in articles in the Army Quarterly and the Journal of the Royal United Service Institution from which the following observations were typical:

Unarmoured cars, the lighter forms of van and lorry take the part of mounted riflemen as they simply carry men to battle, retire to a rendezvous ready either to bring more or await orders from the first contingent<sup>10</sup> (emphasis mine).

Even if transportation be such that troops can be carried rapidly by road (or rail) from one part of the theatre of operations to another, the problem of bringing them within striking distance of their objective still remains to be solved<sup>11</sup> (emphasis mine).

In fact, the infantry's problem on the Western Front had not been inability to penetrate enemy positions, but the ability to exploit initial success. Recognizing this, in 1932 the official Report On The Lessons Of The Great War [called the Kirke Report] concluded:

The key to converting a "break in" into a "break through" appears to be a highly mobile reserve containing a powerful punch supplied by armoured fighting vehicles and mechanized infantry, with a sufficiency of cavalry or lorry borne infantry and mechanized machine guns to secure successive bases from which the tanks can make a fresh bound.<sup>12</sup>

During the 1930s the 'Bren carrier' had made its appearance in British infantry battalions as a weapons carrier. The light infantry mind soon saw the possibility of using these vehicles for combat. It is not surprising, then, that

towards the end of the inter-war period, Lieutenant-Colonel John Reeve, commander of the British Army's first Motor Battalion set forth in the following way the purposes for which the new motor battalions existed:

To constitute a pivot [meaning a fire-support cum infantry support unit] from which armour could operate; to overcome, with its rifles, bren-guns, mortars and tactical expertise, any obstacles impeding an armoured advance; to clear, when necessary, villages, woods and enclosed country; to force the passage of rivers and deny them to the enemy; to protect the tank leaguers at night; to hold captured positions and ground; to round up and take charge of prisoners after a break-through; to carry out patrols and reconnaissance, and to do for tanks whatever tanks could not do for themselves.<sup>13</sup>

The British Army, however, had a second role, that of imperial gendarmerie. It was required to fight small, colonial wars in theatres where important assets could be the improvement of the capabilities of speed and range of manoeuvre. "The British Army, as has often been stated, exists for two main purposes - a European war and an insurrection within the Empire, and it is on the use of mechanical transport for the latter purpose that this article attempts to focus attention," wrote one contributor to the Army Quarterly in 1937.<sup>14</sup> It was widely believed that a mixed, mechanized force which would probably consist of armoured fighting vehicles of suitable type, infantry in buses or lorries supported by mechanized first-line transport and mechanized artillery, together with the necessary auxilliary units would provide commanders with the capacity to execute operations involving wide lateral movements speedily. As another officer had put it in a prize-winning essay in the Journal of the Royal United Service Institution in 1930:

The principal characteristic of operations against a semi-civilized or uncivilized enemy must be that he will generally be unorganized, without definite communications, and lacking in modern equipment, especially aircraft, armoured forces, or means of defence against these. His strength will lie largely in his extreme mobility, enabling him to elude a force hampered with the impedimenta of civilisation. Anything

tending to reduce the odds, therefore, will be an advantage. If mechanization makes a force more nearly ubiquitous, as the enemy may often seem to be, any additional gain in this respect will be greatly to the good, while the moral effect of a rapid appearance at a considerable distance must prove very great. The arrival of an armed force on the spot, at the earliest possible moment when trouble is threatened, may quell an insurrection before it has assumed dangerous proportions.<sup>15</sup>

The advantages and disadvantages of mounting troops on motor lorries had been summarised in an article in the Army Quarterly in 1922. On the one hand, lorries could move troops quickly to a desired spot. They could operate at long distances from their base. They can carry machine-guns and a wide range of military stores and equipment. They reduce troop fatigue to a minimum. On the other hand, the sound of a lorry engine - particularly at night - can alert insurgents that troops are approaching. Lorry-mounted troops are particularly vulnerable to attack by ambush. Lorries do not counter the element of human fatigue; lorries are uncomfortable - particularly in Winter.<sup>16</sup> Apart from these practical disadvantages, many were unconvinced of any advantage to motorization in imperial counter-insurgency, on the grounds that: "to rely entirely upon a motorized army would appear to be courting a series of indecisive campaigns [such as did happen in Ireland in 1920 and 1921]."<sup>17</sup> His solution was: "that we might cease our "joy riding" in lorries and get down to the business we had been taught."<sup>18</sup>

For this dissertation, the important feature to note was absence of any official consideration of a strategic role at the level of major warfare for motorized transport additional or alternative to its logistic uses in the movement of men, guns, and supplies. The role of mechanical transport was expected to remain primarily the movement and sustenance of operating forces in the execution of attrition strategy. This reflected earlier thinking and experience. To summarise mainstream British military thought with respect to the employment of unarmoured mechanical transport at the level of major warfare, it

was concerned primarily - particularly in the 1920s - with the application of motorization to logistical problems of movement and supply. While others saw automotive transportation simply in the logistic sense without realising that it had the potential for strategic movement of forces, perhaps there were practitioners who realised that transportation had a deeper strategic significance. In this review what is available of what we may call strategic writing is sifted from the literature and analysed according to the approaches of practitioners. That is to say, consideration of additional or alternative uses for motorized transport in the manner that certain commanders in military history used the railways. This was the realization that the availability of mobility gave them not just the capacity to carry troops and supplies but to act strategically, that is, mobility gave operational strategic flexibility. The logistic writing addressed the problem of motorization in terms of administration, organization, and transportation. For the purposes of this dissertation it is important to determine what the literature reveals of theoretical concepts for the notional alternative employment of mechanical transport. This will constitute a unique theoretical perspective. An important trend in the literature dealt with mechanical transport, mechanized-armoured forces, and the capacity for success in future war. Several theorists stand out as being worthy of mention.

There are, however, practical difficulties, some of which are alluded to by Richard Simpkin:

I was struck immediately by the contrast between cavalry and armour on the one hand and mounted and mechanized infantry on the other. The first, along with their mounts from horse through tank to helicopter, are documented to the hilt. With the second, I have had difficulty in finding enough authoritative material to put even a historical framework together.

Bond's British Military Policy Between The Two World Wars, an article by him based on a paper presented at the Swedish Royal Staff College of the Armed Forces in 1989, Larsen's British Army And The Theory Of Armoured Warfare,

and Higham's Armed Forces In Peacetime were utilized to review the replacement of animals by motor vehicles in the context of the evolution of British military policy and official operational doctrine from 1918 to 1939.<sup>20</sup> Bond's article makes the point that by default the Army was geared toward imperial defence. This was compatible with the mechanization of infantry and cavalry and was implemented, but it did not encourage use of the tank in large armoured formations. Higham has a useful bibliography of government publications, books and articles to offer. In those years, European military writing was apparently dominated by the British military commentators, Fuller and Liddell Hart, and there are perceptive essays on them in Luvaas' Education Of An Army.<sup>21</sup> In terms of original ideas, Bond has described Fuller as a: "blazing comet", Liddell Hart: "a less brilliant but steadier star."<sup>22</sup> Both wrote extensively and are among the most interesting and widely read military writers produced by Britain. Biographies include Trythall's 'Boney' Fuller and Bond's Liddell Hart.<sup>23</sup> Klein's thesis, "J.F.C. Fuller And The Tank" traces Fuller's contribution to the development and use of the tank in the First World War.<sup>24</sup>

Marshal Mikhail Tukachevsky, General Charles de Gaulle, and General Heinz Guderian were significant - Russian, French, and German respectively - practitioners. Sources which have been utilized for their theories include O'Ballance's general history, The Red Army, Scott and Scott's Armed Forces Of The USSR on the Soviet Military and Soviet military affairs, Clarke's "Military Technology In Republican France: The Evolution Of The French Armoured Force, 1917-1940", Bond and Alexander's "Liddell Hart And De Gaulle: The Doctrines Of Limited Liability And Mobile Defense", Perret's history of the Reichswehr, then Wehrmacht Panzerwaffe, Knights Of The Black Cross, and Guderian's autobiography, Panzer Leader. Rommel's papers, edited by Liddell Hart, is a useful reference for the thinking of one of Germany's ablest panzer tacticians. It contains large sections of Rommel's book War Without Hate (Krieg ohne Hasse).<sup>25</sup>

Tukachevsky is generally considered the outstanding inter-war Soviet military commander and strategist. In the late 1930s de Gaulle was a polemicist for a policy of metropolitan defence based on a highly professional mechanized army. A colonel at the outbreak of the Second World War, he was a tank brigade commander and briefly divisional commander of an armoured division before joining the government of Paul Reynaud as Under-Secretary of War. In Germany, between the two world wars, Guderian had an enormous influence on the evolution of the concept of organising tanks, mechanized infantry, and motorized support arms into mobile formations, capable of fast independent action.

For Fuller, a capacity for armoured mobility correlated with the capacity for success in major warfare, that is military operations other than those which might be associated with colonial pacification and peacekeeping.<sup>26</sup> Medium or cruiser tanks and a new generation of specifically designed armoured cross-country vehicles would provide such a capacity. A tank force could efficiently execute the functions of demoralizing, disorganizing, and destroying the enemy. This, Fuller thought, would render the existence of 'infantry', 'artillery', and 'cavalry' problematical.<sup>27</sup> Fuller, however, recognised the widespread utilization of the unarmoured, wheeled mechanized load-carrier by the administrative and supply services of the British Army in the First World War as a significant development: "had not the lorry existed, it would have been impossible to have supplied the guns."<sup>28</sup> All transport, therefore, should be 'mechanicalized' (motorized).<sup>29</sup> Tracked transport would be desirable.<sup>30</sup> Wheeled transport could play a role in future military operations at the level of a major war, but a logistic one.<sup>31</sup>

Liddell Hart's concept, motorization, applied to the first stage of the mechanization he desired for the British Army: the development of logistic motorized transport.<sup>32</sup> Motorization, as a process, was being accelerated by the introduction of the six-wheeled lorry.<sup>33</sup> However, where the terrain was naturally difficult or where ground was

ploughed up by shell-fire - as had been the case with the battlefields on the Western Front in the First World War - wheeled mobility would be inferior to one based on tracks.<sup>34</sup> True mechanization, in Liddell Hart's opinion, should be armoured mechanization:

So far as recent developments in equipment have gone, the armies are becoming motorized but not bullet-proof. They have far more mobility - until they meet opposition. To retain mobility when one comes under fire one needs armoured mobility.<sup>35</sup>

In his writings Liddell Hart pressed for the development of mechanized infantry as part of strategic armoured forces.<sup>36</sup> Armoured formations' integral infantry should not be equipped merely with vulnerable unarmoured vehicles but with tankettes or other, armoured, vehicles, from which they might dismount to act on foot.<sup>37</sup>

From the launch of the First Five Year Plan in 1928 to the beginning of Stalin's purges of Soviet commanders in 1936 the Red Army experimented with mass mechanization. Marshal Klementi Voroshilov - in effect, Defence Minister, from 1925 - had always favoured equipping the Red Army with the latest and best means of mobility and as lorries became available formations of lorry-borne infantry were organised.<sup>38</sup> Sponsored and motivated by Tukachevsky - Red Army Chief of Staff - groups of experts followed closely the secret German armoured experiments at Kazan.<sup>39</sup>

Tukachevsky was also interested in the possibilities of highly mobile forces, which he envisaged as a combined tank-air team, supplemented by parachutists and backed up by artillery and infantry.<sup>40</sup> "In general," he wrote, "operations in a future war will unfold as broad maneuver undertakings on a massive scale."<sup>41</sup> Tukachevsky - a former officer of the Imperial Army - was purged in 1937. After that any talk of deep penetration operations with mobile forces was deemed counter-revolutionary. The 'Motor/Mechanized Corps', in which Tukachevsky envisioned that all infantry would eventually be lorry-borne, were declared incompatible with the state of Soviet industrial development and the largely peasant soldiery at the Red

Army's disposal, and broken up.<sup>42</sup>

Although it developed heavy armoured forces the French Army did not create the autonomous, professionally manned, mechanized corps (the armée de métier) de Gaulle called for.<sup>43</sup> In the 1920s experiments to explore the potential of unarmoured military vehicles were encouraged by Generals Edmond Buat, Chief of Staff from 1920 to 1923, Louis Maurin, Inspector-General of Motorization, 1927 to 1929, and Joseph Doumenc, who had organized motor columns to supply Verdun during the 1916 siege.<sup>44</sup> Motor transport was introduced to all arms.<sup>45</sup> However, the influence after the war of Verdun's commander, Marshal Philippe Pétain, encouraged the view that fixed fortifications and carefully prepared battlefields could blunt even an attack by tanks and that mobility should be thought of in terms of movement behind a static front, the Maginot Line.<sup>46</sup> The ability of General Maxime Weygand, Chief of Staff, 1930-31, and Inspector-General of the Army, 1931-35, to create a manoeuvre element in the 1930s was made possible by the mechanization of cavalry for its traditional roles of long-range reconnaissance, pursuit, and economy-of-force operations.<sup>47</sup> Weygand's and his successor, General Maurice Gamelin's, light mechanised force concept encouraged employment of armoured infantry in semi-tracks. In practice these motorized dragoons moved in unarmoured, often wheeled vehicles - albeit usually with some all-terrain capability.<sup>48</sup>

In Germany the task formally assigned Guderian was that of motorizing the army's logistic system. His involvement in the problem of motorization, however, led him to consider the possibility of employing troops directly against an enemy in a war of movement.<sup>49</sup> Others, including Field Marshal Walter von Brauchitsch, Commander-in-Chief of the Wehrmacht, 1938-41, favoured fast lightly armoured forces, based on mechanized infantry operating in conjunction with aircraft, as the primary strike force.<sup>50</sup> Guderian's emphasis on mechanized infantry as the integral infantry of an armoured division of tanks distinguishes his thinking. Support for Guderian may be found in Field

Marshal Rommel's view that: "the tank is the backbone of the motorised army".<sup>51</sup> Guderian believed the tank's full potential as an operationally decisive weapon could be realised only by the formation of panzer, or tank, divisions which should also contain a panzergrenadier, or motorized tank-infantry component. The latter would contribute to the armoured battle by moving into the gaps created by the tanks, dealing with areas of opposition, and holding selected areas of captured ground.<sup>52</sup> Theoretically, he held, tanks would never produce their full effect until the troop-carrying vehicles accompanying them possessed equal mobility in armoured half-tracks. In practice, he accepted that troops accompanying tanks into battle could be mounted on lorries.<sup>53</sup>

### 2.3 Investigation and Influences

Where are our two protagonists in all of this?

In summary, in the 1920s and 1930s, Montgomery did not really agree with the radical and revolutionary notion that armour should be developed to become the predominant arm of the Army even though he was in touch with several of the advocates of this, including Liddell Hart.

Montgomery had written, congratulating Liddell Hart on his "'New Model' Army" article of 1924. In 1931, many of Liddell Hart's ideas were incorporated in a new edition of the Infantry Training Manual, written by Montgomery. In 1937 (when an important article of Montgomery's appeared, "The Problem Of The Encounter Battle As Affected By Modern British War Establishments") he wrote to Liddell Hart of the many occasions when his inspiration had come from Liddell Hart's writings, "which I always read with no small benefit."<sup>54</sup>

However, though Montgomery congratulated Liddell Hart on his 1924 article, he did not completely agree with the latter's emphasis on armour. In the end, he felt, all

wars become a confrontation between infantry. The training of this infantry, its ability to move with cohesion, and to co-operate with artillery, tanks, engineers, and aircraft - what we call now the 'combined arms mix' - would determine the outcome.<sup>55</sup> In Infantry Training, Montgomery conceded there would be cases where tanks would be employed as the primary arm of assault, instead of in support of the infantry, but this was as far as he was prepared to go.<sup>56</sup> In the article "The Problem Of The Encounter Battle" of 1937, Montgomery put on record his views on how a successful commander should handle a modern major operation. A divisional commander must be willing to command the front-line units himself, to assess for himself the intentions of the enemy, and to dispose his forces in well-trained, mobile formations in accordance with a clear-cut plan.<sup>57</sup>

What were Montgomery's views on unarmoured vehicles, and their strategic employment?

Writing in the Antelope, the Regimental Journal of the Royal Warwickshire Regiment, he thought that modern conditions demand increased mobility; thus infantry should be provided with mechanical transport. Motorization, providing mobility, would permit the concentration of superior force at the right time and place. Mechanical transport would afford a commander means to move reserves rapidly from rear to where they would be required on the battle-front: "mechanical vehicles kept in suitable localities in rear will prove of great value for the rapid movement of reserves, the use of which will more than ever influence the battles of the future."<sup>58</sup> But a problem was wheeled vehicles' lack of an off-road capability: "one of the great drawbacks at present to a lorry column is that it cannot leave the road and scatter when attacked by aircraft; hence it is very vulnerable in daylight."<sup>59</sup> He proposed: "some vehicle that can leave the road when necessary and continue its journey across country"<sup>60</sup> and concluded that: "the semi-track vehicle must replace the lorry."<sup>61</sup> Motorization, by increasing mobility, Montgomery thought in 1937, would afford a greater power to the

attack.<sup>62</sup> But, in the encounter battle - operations between two forces on the move suddenly making contact - unless enemy artillery could to a certain extent be neutralized, a commander could be forced to debus his forward, rifle units - lorry-borne light infantry - far in rear of the area where contact is first gained by his forward armour.<sup>63</sup> In the contact battle - as contact between main forces becomes imminent or when following up a retreating enemy making use of mobile detachments for purposes of delay - it would be advisable to have infantry units so disposed that they could operate quickly and effectively against hostile delaying forces determined to make full use of obstacles.<sup>64</sup> This could be done by having an infantry brigade - two brigades, when advancing on a two-brigade front - in command of the forward portion of the division, at least two battalions of each division mobile in mechanical transport, 'at heel', available for use as the situation develops.<sup>65</sup>

No record has been found of any foray into authorship by O'Connor. A search of the inter-war volumes of the journal corresponding to the Antelope, The Covenanter, Regimental Journal of the Cameronians (Scottish Rifles), reveals no evidence of any contribution by O'Connor on theory.<sup>66</sup> We may surmise that O'Connor was not among those between the wars who desired armour to become the Army's predominant arm even though in the first half of the 1920s he was Brigade-Major, 5th Brigade, an experimental combined arms formation. Commanding the 8th Infantry Division, in Egypt in the second half of the 1930s, O'Connor also worked closely and amicably with P.C.S. Hobart, commander of the Mobile Division, Egypt. A significant part of Hobart's training effort was concerned with techniques for integrating the movement of motorized infantry (the 'Pivot Group') with the armour and artillery. The general tone of O'Connor's comments and correspondence does not vouchsafe any evidence that he disapproved of this. "It is the best trained division I have ever seen," he said.<sup>67</sup> O'Connor's final and retrospective view on the theoretical desirability of infantry accompanying tanks being tracked,

or at least under armour, may be gleaned from his comment following Operation 'Goodwood' (July 1944) that: "the difficulty experienced by the infantry was in keeping up with the tanks, which was due to the lack of a suitable armoured vehicle in which they could be carried forward."<sup>68</sup>

#### 2.4 Categorization and Conclusion

It would be helpful here to try to categorize the different ways practitioners explored this problem of the relationship of motor transport to the restoration of mobility to operations. We may delineate at least three broad categories of practitioners on the basis of their approaches.

The first may be termed innovators. Rosen has suggested that military innovation in peacetime occurs when senior officers formulate some explanation, however tentative, of the general nature of the 'next' war and how it should be fought if it is to be won; technological innovation involves questions of what is known of the organization of enemy technology.<sup>69</sup> He has defined a major innovation as: "a change in one of the primary combat arms of a service in the way it fights or alternatively, as the creation of a new combat arm."<sup>70</sup>

Exponents of the theory of armoured warfare and enthusiasts for the creation of large, modern tank forces, Fuller, Liddell Hart, Tukachevsky, de Gaulle, and Guderian were major innovators, if Rosen's definition is accepted. Nevertheless, each had something to say about the relationship of military transport, that is second order technology, to the organisation of mechanized formations with the capability for armoured mobility, in the notional successful prosecution of military operations. It should be emphasized, however, that they all saw tanks as the primary means of achieving success in such operations.

Of course, there were differences of emphasis - to

which some reference has already been made. The stress which Liddell Hart, Tuckachevsky, and Guderian place on the need for an offensive infantry element, mounted on motor vehicles, to accompany the tanks to overcome and clear defended obstacles may be contrasted with de Gaulle's vagueness about this, and Fuller's view that lorried infantry would really only be useful to occupy captured ground or to operate on ground unsuited to tank movement.

The second group may be styled progressives. These were thoughtful officers who perceived that movement utilizing the internal combustion engine was significant, not only for tactics but also for operational military strategy and needed only to be understood and brought to an adequate level of efficiency, workability, and mobility. This group may be distinguished from the innovators in so far as they held the tank to be only one weapon of mobility, rather than the potentially operationally decisive one under all conditions. Among these progressives we may include Voroshilov, von Brauchitsch, Weygand, Gamelin, O'Connor, and Montgomery.

The third category may be termed conservatives. These sought to utilize the internal combustion engine as a means of improving the mobility of operating forces in the execution of attrition strategy through motorizing draught, to move artillery, and transport, to facilitate speedy deployment of infantry, and keep them, and the guns, supplied. What they saw no value in was the concept of independent armoured formations. The British Army did not concentrate on the innovation of large, modern, and independent armoured forces because of dominant personalities in the army's higher direction's conservatism in comprehending the scope and meaning of armoured warfare. It was not widely understood, before the debacle of May 1940 that, without an armoured force capable of deep strategic penetration and a settled cohesive doctrine of how the army should conduct operations with such a force, Britain might be at a disadvantage in any attempt to employ military force against Germany. What happened in practice, and why, is the subject of the next chapter. It can be

fairly stated, however, that it was and is a performance goal of ground forces generally - particularly the infantry arm - to be mobile, and in war to be more mobile than the enemy. The capability of moving by unarmoured or lightly armoured, usually wheeled, personnel-carrying vehicle gave the British infantry arm a workable capacity, not only for more rapid operational deployment but for mobility as well, which had the potential for significant operational strategic effects in the hands of outstanding progressive commanders.

The purpose of this chapter has been to review the military professional literature of the period between the two world wars for concepts for practical applications of motorization to problems of movement and supply and for additional or alternative applications to problems of mobility and strategic manoeuvre by separating out the relevant strategic approaches of practitioners from the logistic ones.

A final quotation, from the Royal United Service Institution Journal in 1927, may serve as a reminder that these approaches were worked out in peacetime, at least, where there was peace between the major powers, that is before the Second World War. There had to be a large measure of uncertainty about the relationship of second order technology to the capacity for success in future operations at the level of another major war:

"The art of applying mechanized transport to the greatest advantage is yet unknown". It is with this last basic fact, and not with its more temporary attendant circumstances, that all armies are chiefly concerned. Upon a successful solution of this enigma in great measure depends the issue of future campaigns.

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## CHAPTER 3

### WHAT ACTUALLY HAPPENED

#### 3.1 Introduction

Britain's inter-war failure to innovate a modern armoured force and an appropriate and authoritative doctrine of armoured warfare, to confront what may have been known of the organization and techniques of German armour, motorized infantry, aircraft and support arms in a general land strategy of blitzkrieg, had its nemesis in the events of May 1940. The mobility of tanks, panzergrenadiers and dive-bombers coupled to surprise and unorthodox action both disrupted defensive efforts and mentally dislocated Allied commanders. The failure to develop a final, fixed, organization for a mechanized division of all arms, to settle on a fixed and cohesive doctrine of armoured, mechanized, warfare, or to acquire tanks in sufficient numbers was critical. Yet the capability of moving by unarmoured or lightly armoured, usually wheeled, personnel-carrying vehicles gave the standard 1937-43 type British infantry battalion a workable capacity for mobility which was to have significant operational strategic effects in the hands of certain commanders in 1940. So, for the purposes of this dissertation, we need to know what the British Army did between the wars to review, reform and reorganize in respect of recognizing and rectifying shortcomings in reaching sufficient standards of mobility for the infantry. It did this by employing means of transport and movement which utilized the internal combustion engine and adapted operational concepts. Concepts and comment now need to be related to chronology to determine what the British Army did to motorize, instead

of developing a large, modern, armoured force.

In Chapter 2 it became clear that the process of motorization took place in three functional areas: the transportation of supplies, the transportation of men and weapons to the battlefield, and the transportation of men and weapons on the battlefield. What actually happened in response to the logistic, operational and tactical challenges set up by motorization is established through an interpretive account and analysis of the participants' experiences of exercises and experiment to determine the relationship of the various orders of automotive technology to the capacity for success in major warfare.

The greatest controversy in the British Army between the two world wars and the most contentious issue in its adaptation to automotive technology concerned the role of armoured fighting vehicles. It boiled down to whether tanks - military motor vehicles not only powered by the internal combustion engine but with characteristics of firepower, armoured protection and mobility and shock - could, when independently used in an exploitation role, influence military operations decisively compared to mere support of infantry. But the British Army of 1939-40 was structured by its doctrine and organization more for the conduct of mobile, all arms operations than for armoured warfare. This was because it had been tacitly accepted that the armoured fighting vehicle would not be substituted for the soldier in mass, that the main formation of the army should continue to be the infantry division with mechanical transport. It was also accepted that motorization could increase efficiency by making the infantry division more mobile and self-contained. It was noted in Chapter 1 that, among the objective factors influencing British military developments between the world wars were the Army's responsibility to garrison the Empire largely to put down civil unrest, low levels of military expenditure coupled with inter-service rivalry for funding, and general uncertainty about the strategic and technological future. Other factors alluded to, such as pacifistic and idealistic governmental indifference to

military affairs and inability to perceive the threat from Japan, Italy and Germany to the collective security established by the League of Nations, and the military conservatism of dominant personalities in the War Office and higher command, highlight the significant - arguably at times decisive - influence of temperament, values, and perceptions of reality on the course of events. A description of interaction among contenders both within and outside the official policy-making apparatus and the influences of the broad categories of attitudes to motorization identified in Chapter 2 seeks to explain why the British Army did not concentrate on developing the modern, adequate, mechanized, armoured force of tanks with the armament, speed and armour to make their presence in tank battles decisive.

It is worthwhile to consider how the contenders viewed developments: those who desired that armour be developed so as to become the predominant arm of the Army, and those more conservative contenders who wanted only "evolution, and not revolution" with only some tanks on the battlefield at the speed of advancing infantry brought to battle by mechanical transport. This permits evaluation of what actually happened in the perspective of the concepts of those who were writing at the time.

Motorization influenced operations, tactics, and logistics. Conclusions will be formulated about the extent to which by 1940 British infantry had more efficiently achieved a capability to move more rapidly over great ranges to achieve operational strategic advantage.

### **3.2 Exercises and Experiments**

This section is concerned with the experiments to replace horses by motor vehicles as means of transportation and operational movement and to establish the relationship of the various orders of automotive technology to the

capacity for success in future war. The conceptual context is Fuller's, Liddell Hart's, and other writers' and practitioners' promotion of the primacy of armoured fighting vehicles and the challenge to the British Army to adopt the desired doctrine and organisation. A detailed determination of the shortcomings of the British tanks intended for exploitation by engaging and defeating enemy tanks in independent armoured operations is largely irrelevant for present purposes. Remarks on their firepower, protection and mobility are included to illustrate something of the British Army's shortcomings in first order technology in the immediate pre-Second World War period, however.

The restoration to the British Army in the 1880s of dragoons as mounted troops, with the capability of moving at the speed of heavy cavalry - the 'armour' of the day - but who fought on foot as infantry with the carbine, seems to afford an analogy with the development of motorized infantry in the 1930s. Furthermore, the extensive use by the British Army of mounted infantry in the Anglo-Boer War (1899-1902) suggests that it was believed that the concept was suited to low and medium intensity operations. This seems analogous to the rationalizing in the 1920s and 1930s that small wars were the operations suited to motorized infantry. While British mounted infantry of the late nineteenth and early twentieth centuries - dragoons, hussars, or yeomanry - were technical precursors of the British motorized or mechanized infantry of the Second World War period, it is recognized that care should be taken not to overwork the analogy.<sup>1</sup>

Perhaps the experimental 'light troops' of the Peninsular War (1808-14) and the evolution of a British light infantry tradition shaped the British motorized infantry concept more than the mounted infantry one.<sup>2</sup> The light infantry tradition is associated particularly with the name of Sir John Moore and Frederick Augustus, Duke of York. The motorized infantry of the inter-war years sustained this tradition but, again, the links are superficial.

By the period immediately before the Second World War the medium tank function was regarded as consisting of two alternatives: some British medium tanks were viewed as being cruisers, intended to participate in specifically armoured operations; others were intended to operate only in support of infantry. The latter were provided with a howitzer as principal support armament and given extra armour to compensate for their slow movement. The only British anti-tank gun available in the late 1930s, the Vickers-Armstrong 2-pounder quick-firing gun was quickly rendered obsolete by improvements in German armour. In 1939 and 1940, no British 'gun tanks' achieved even the firepower of the British heavy tanks of the 1914-18 period. This was not rectified until the arrival of the American M3 General Grant in 1942. Although armour was increased and improved, cruisers still had woefully inadequate armour in 1939. Rivetted construction remained standard and the advantageous cast or welded armour was not yet in use. Welded construction would not only have decreased the weight of tanks but it could have reduced the possibility of bullet 'splash' through slits between rivetted plates. Rivetted plate on frame construction determined the angular box-like appearance which characterised British tanks well into the Second World War. The late 1930s were, however, a turning point with respect to the speed and mobility of British tanks. This resulted from the development of cruisers with the suspension system devised by J.W. Christie. This relied on large-diameter road wheels attached to swinging arms supported by long coil springs to allow individual road wheels great vertical movement. Nevertheless, not enough attention was yet given to developing suitably powerful tank engines, and British tanks of 1939 and 1940 were prone to great engine unreliability.<sup>3</sup>

In 1927, some ten years after tanks' first significant aid to infantry on the Western Front at Cambrai and four years after the formation of the Royal Tank Corps (R.T.C.), a fully motorized force of all arms was established on Salisbury Plain. This experimental formation, of

approximately brigade size, to test the feasibility of strategic reconnaissance and operations with conventional forces, that is, the main infantry force, existed for only two years. It included tanks, two-man tankettes, armoured cars and a machine gun battalion carried in six-wheeled lorries, as well as motorized artillery, ancilliary, and support units.<sup>4</sup>

There was a general consensus that the trials of the Experimental Mechanized and Armoured Force had been a success but had failed to demonstrate a tactical and operational technique of penetration by massed tanks working in close cooperation with infantry, artillery and aircraft, as had been the case in all large-scale manoeuvres since the Armistice. Major A.H. Austin, R.T.C., reported in an interview: "And so we had to - when we were co-operating with the infantry on these exercises - we had to pretend that our maximum speed was somewhere in the region of five or six miles an hour and move accordingly."<sup>5</sup> A remark by General R.F.K. Belchem, R.T.C., illustrates the intense branch parochialism of the times: "If I can't help you very much in the plans, or the methods that were used to co-operate between infantry and tanks at that time it perhaps shows that I was not particularly interested."<sup>6</sup> It was concluded that the motorized elements had tended to impede operations by the armoured elements and that the correct way to use armour should be 'all armoured' formations to which other arms and units, if motorized, could be attached as and when required. So trials of the Experimental Armoured Force were discontinued in favour of allowing the rest of the Army to catch up in the application of modern methods of transport to all arms.<sup>7</sup>

Those, however, wishing to see an independent force with the capability for armoured warfare established on a permanent footing were encouraged when a new permanent Tank Brigade under Brigadier Hobart, and the mechanized 7th Infantry Brigade under Brigadier G.M. Lindsay, were briefly combined with artillery to form another experimental force of all arms. Hobart and Lindsay, despite differences on the composition of armoured, mechanized formations,

combined their brigades into a 'Mobile Force' for 1934 in an unsuccessful attempt to force the permanent formation of a mobile, armoured division.<sup>8</sup> Lord Bridgeman, then Brigade-Major, 7th Infantry Brigade, later remarked that Lindsay:

... could see that the task which lay ahead was to study the way, not so much what armour could do - he was not commanding armour at that moment, Hobart was - but how the armour could be made more effective in battle by the development of mechanised infantry who could protect them when they wanted to be protected.

And the first thing in order to bring that about was to arrange for the infantry to be able to keep pace with the armour.

The efforts of the armour enthusiasts seemed finally rewarded in 1937. A firm decision had been taken to form armoured divisions, or rather as first they were called, 'mobile divisions'. One division was to be formed in Britain, another in Egypt, in response to the threat perceived from Italian forces in Cyrenaica. In 1939 newly-mechanized cavalry regiments were combined with the R.T.C. battalions to form a single Corps.<sup>10</sup> Although the result may have been a 'larger' armoured force, the policy of cavalry mechanization was part and parcel of decisions not to expand the Tank Corps itself.

Significantly for present purposes, when the concept of a tank-oriented mixed force was revived in the late 1930s, the integral motorized infantry element, the Motor Battalions, designed to bring highly mobile infantry in their own vehicles in close support of the armoured divisions then being formed, were found from existing infantry units which had their antecedents in regiments of Light Troops commanded by Sir John Moore in the Peninsula. As far as armoured formations were concerned, infantry travelled mainly in unarmoured lorries for most of the Second World War. Although some later embodiments of the 'carrier' concept were personnel carriers, the Bren carrier of this period was a tracked infantry vehicle only in the sense that it was designed for the transport of the First World War infantry weapon par excellence, the

machine gun - albeit the latest British development in light machine guns - rapidly to any desired spot. It was unable to carry more than two or three men at a time. Its reputation for mechanical failure also cast doubt on its value to modern infantry.

The evolution of what became the first British armoured divisions was, as has been shown, a long, confused process. The formations eventually established did not emerge as a result of a clear and coherent doctrine. Major-General H.M. Liardet, R.T.C., said in interview in later years:

The idea was there. There's no doubt that Hobart had the idea of moving armoured forces on a wide front at high speed with the objective of going deep into enemy territory. This is what he meant to instil, not quite as much possibly in 1935 as later again when I came back in '36. ... And then, of course, he was moved off and made director of military training. But certainly he had that brigade moving marvellously. And what is so sad is that the British Army lost all that. When it came to the 1939-1940 War, we hadn't got a proper organisation. Our armoured division wasn't trained as this one was and it never really functioned in the first part of the war. And it wasn't until desert days that we used armoured divisions because Hobart was sent out, if you remember, in 1938 or something of that sort to command the armoured division, or Mobile Division I think it was called then, in Egypt and got the nucleus of the 7th Armoured Division going.

In fact, the cumulative influence of decisions to extend motorization and mechanization to include all arms and to experiment with the vehicular and organizational requirements of field forces so organized was that the British Army would enter the Second World War structured by its doctrine and organization more for the conduct of mobile, all arms operations than for armoured warfare.

### **3.3 Influences and Events**

Few caricatures achieved the popularity with the British public of Low's Colonel Blimp, a proponent of

'Establishment' opinion who opposed the modernization of the British Army in the 1930s. Mention might also be of Noel Coward's Colonel Montmorency who "planned/in case the enemy tried to land/to drive them back with skill/and armoured force./He realized/his army should be mechanized/of course/but somewhere inside/experience cried:/'My Kingdom for a Horse'". While there is often truth in caricature, the usefulness of the categories of attitudes identified in Chapter 2 is, perhaps, that they allow us to glimpse a fuller truth, and to avoid oversimplification, in respect of the influences of contenders on developments.

It has been noted that innovators, exponents of the theory of armoured warfare and enthusiasts for the creation of a large, modern, tank force, wished the focus for the application of motorization to be the development to become predominant in the Army. Conservatives instead sought to utilize the internal combustion engine as a means of improving the mobility of the main conventional infantry force and of facilitating its cooperation with the other arms - including tanks - in the execution of attrition strategy. Progressives, it was noted, differed from the innovators in holding the tank to be only one weapon of mobility, rather than the potentially decisive. It might also be noted that they may be distinguished from conservatives by the view that the efficient application of automotive technology to tactics and operations demanded not only the replacement of horse transport by motorized transport but the abolition of the horse from war: for example, Montgomery and O'Connor - infantrymen - would not have been so tied 'conceptually' to the use of horses.

Interaction took place within and outside the official policy-making apparatus as contenders sought to influence events. Colonel Sir Douglas Scott, in the 1930s a captain in the 3rd King's Own Hussars, recalled: "I wrote a furious letter to an MP friend of mine - who unfortunately passed it on and I got a rocket. But we just had no equipment."<sup>12</sup> Major General Liardet again, on Liddell Hart's activities as a military journalist, said:

We used to read the press accounts in the 'Times' and the 'Telegraph'. We used to read them avidly to see whether we were mentioned and whether we'd done well. ... These chaps got a very good view of what was going on and wrote it very well. There was no secrecy or anything like that at all as far as I could make out. I think that Liddell Hart was at that time the correspondent of the 'Times'.<sup>13</sup>

In fact, soon after being obliged to leave the army on health grounds, Liddell Hart became successively military correspondent for The Daily Telegraph (1925-35) and defence correspondent of The Times (1935-39). In this period, he probably reached the peak of his military and political influence, becoming unofficial advisor (1937-38) to Leslie Hore-Belisha, the Secretary of State for War (1937-40).

Throughout the inter-war period, the British Army was ruled by the Army Council. This body was chaired by the Secretary of State for War. It had four military members, of which the most important was the Chief of the Imperial General Staff (C.I.G.S.), de facto head of the Army. This higher direction of the Army embodied the resistance of a conservative military 'Establishment' to the theory of armoured warfare held by the innovators. Those occupying the office of Chief of the Imperial General Staff epitomized such resistance. "This little man is only 800 years out of date," said Fuller, of the Earl of Cavan (C.I.G.S. 1922-26).<sup>14</sup> Each in turn, the innovators felt, let them down, disappointing any initial expectations they may have had of particular individuals. There is probably some truth in this - from the viewpoint of the tank enthusiasts.

In terms of the categorization in Chapter 2, the attitudes to motorization of dominant personalities in the War Office and of the seven individuals who occupied the office of Chief of the Imperial General Staff between 1918 and 1939 can be described simply as conservative. They were often far from antagonistic to tanks, or to 'all armour' formations. Most held, however, that the tank's fundamental role was as a weapon of infantry support. They felt that while armoured fighting vehicles were capable of highly mobile operations in conjunction with conventional, mechanized forces, that they were not capable

of making a decisive impact independently. Flowing from these conclusions on the relationship of the various orders of automotive technology to the capacity for success of a field force in major warfare, they argued that reform and reorganization directed toward the creation of a mechanized army rather than an armoured force was what was required. It was desirable, therefore, that the mobility of every arm of service be improved through general motorization and mechanization, rather than to focus the application of automotive technology on establishing a mechanized, armoured force composed almost entirely of armoured fighting vehicles, as the innovators wished.

In reality, this concept was not to be fully realized, despite continuation of the 1911 subsidy scheme. The scheme provided for a subsidy or subvention payable by the War Office to the civilian owner of a commercial vehicle on the understanding that it would be handed over to the Army if required. Various other arrangements with commercial operators for the hire of vehicles (particularly for the Territorial Army), and plans to impress certain civilian vehicles into military service were also part of the scheme.

Fuller had developed his concept of armoured warfare around the characteristics of tanks designed by Lieutenant-Colonel P. Johnson. Johnson left the Army in the early 1920s to set up the Roadless Traction Company, which developed a track unit on the lines of the Kegresse half-track system. Almost any lorry could be converted to run on Roadless tracks. There were strong pleas from some in the Army for tracked or half-track transport to take over from wheeled vehicles, to permit greater off-road mobility. These were rejected, largely because it was felt such vehicles would not meet criteria of commercial viability - important because of the subsidy scheme.

Another answer to the problem of increasing the scale of mobility, inspired by ideas from America, was the rigid six-wheeler design. An important influence in the development of the six-wheeled load-carrying vehicle was Major-General M.S. Brander formerly an officer of the Royal

Army Service Corps, afterwards, in the period of rearmament, Director of Supplies and Transport at the War Office.<sup>15</sup> He can be seen as representative of that large category of thoughtful officers who, while perhaps not thinking holistically, wished their own arm of service to make progress. In their view the concept needed only to be understood and brought to an adequate level of efficiency, workability, and mobility.

Of course, some officers were not so much progressive, as pragmatic. Brigadier R.N. Harding-Newman, R.T.C., who assisted the mechanization of the 12th Lancers, remarked:

What I do know is that having been one of the two regiments to accept mechanisation under the then Colonel Charrington that they accepted it completely and utterly. And they really did their damndest to become a really efficient armoured car regiment. ... He foresaw that if he accepted mechanisation early on, then he was going to continue as the 12th Lancers but on a mechanised role.<sup>16</sup>

The technical problem of providing a cross-country performance with greater carrying capacity remained, but as a War Office committee noted in 1934:

Until two or three years ago the 6-wheeler was regarded as the only type of 3-ton lorry suitable, by virtue of its cross-country performance, for military 1st line transport work. Recently, however, a great improvement in the cross-country performance of commercial 4-wheelers has taken place. This development is largely the result of the classification of vehicles for purposes of taxation under the Finance Act, 1933, and the Road and Rail Traffic Act, 1933, by their unladen weight. This classification has led commercial vehicle designers to produce vehicles capable of carrying heavy loads on the lightest possible chassis; this means a high power-weight ratio, which is precisely<sup>17</sup> one of the qualities required for military purposes.

By the mid-1930s, therefore, great advances had been made in the design and efficiency of four-wheeled vehicles in the 3-ton range so that: "when war came again in 1939 the logistic transport of the Army was in a better stage of development than anyone who had not been concerned with the fight for success had a right to expect."<sup>18</sup>

### 3.4 Contenders and Developments

By the mid-1930s Fuller had retired from active service. The Ten Year Rule had ended under pressure from the inter-service Chiefs of Staff Committee. A deficiency programme had been instituted, to fill gaps in armaments and equipment. This was, in effect, rearmament, but with no commitment to send troops to Europe. As rearmament began, contenders who advocated a strategy of armoured war and wanted an elite armoured force of tanks and other armoured fighting vehicles as the centre of gravity of the army, now sought to ensure that development of the army's tank forces was placed at the centre of the deficiency and rearmament programme. As Larson puts it:

No longer did the army or the advocates of the strategy of armoured war attempt to convert each other to their way of thinking; instead, they engaged in a naked struggle for control of the crucial command and staff positions within the army that would determine its future development. It began with the appointment of a new secretary of state for war [Hore-Belisha] in the spring of 1937.<sup>19</sup>

This appears to be borne out by another quotation from Major Anthony Austin. He refers to an officer who at the big final discussion in the library in Aldershot Command, attended by the C.I.G.S. - probably General Sir Cyril Deverell (C.I.G.S. 1936-37), after the conclusion of the 1937 Army Manoeuvres criticised "tanks being used in sort of penny packets as opposed to en masse ... Colonel Murray was very outspoken and was really too outspoken about the way armour had been used. And I think probably at the end of that he got no further promotion."<sup>20</sup>

The facts of what actually happened, judged by the concepts of the champions of armoured war, tell a sorry tale. The British Army did not concentrate on developing a tank force comparable to that of Germany, even as it became clear that the Government's policy of appeasement - trying to satisfy any German demands not directly threatening the peace of Western Europe - would probably

fail, and Britain would become involved in war with a major power which had built its army around the offensive power of tanks. However, contenders who adhered to an attrition strategy were able to take a considerably more positive view of developments.

Lieutenant-General Sir Archibald Montgomery-Massingberd (C.I.G.S. 1933-36) had been charged with overall supervision of the Armoured Force experiments of the late 1920s. His conclusions, later, regarding the lessons of those exercises were that:

What was wanted was to use the newest weapons to improve the mobility and firepower of the old formations ... What I wanted, in brief, was evolution and not revolution ... . I discussed this question very fully with Lord Milne who was then the C.I.G.S. and as a result the 'Armoured Force' as such was abolished and a beginning was made with the mechanization of the Cavalry and Infantry Divisions.<sup>21</sup>

Implicit here is the idea that the proper, future operational role of medium and heavy tanks should be as 'mobile pillboxes', that is as direct support weapons for the infantry, itself made more mobile by mechanical transport. Also implicit is the idea that the role of light tanks would be that of part of highly mobile motorized or mechanized cavalry formations to strike at the enemy's flanks or rear areas, which might also include troops mounted on lorries. But - in other words - his view was that the proper employment of the new weapon did not require its organization in independent formations.

When he retired in February 1936, Montgomery-Massingberd believed he had achieved considerable progress in Army reform and reorganization. Listing his achievements, he noted in addition to the establishment of the Tank Brigade as a permanent (but not operationally independent) formation, the decision, in principle, to establish a Mobile Division (although it was not actually established for another year), and approval in principle of the concept of Army-tank battalions for infantry support, the ongoing mechanization of cavalry regiments (the concept of purely motorized cavalry was abandoned shortly after he left

office) and considerable progress in the motorization of artillery and infantry transport.<sup>22</sup> In The Times and elsewhere, Liddell Hart spelled out the criticism of the enthusiasts for large, modern armoured forces. "The recent progress of the Army", he said, "had been mainly directed to improving the general mobility of the other arms; this is rather in contrast to the latest trend abroad, where efforts are being made to create a number of "mechanized" divisions in the full sense, basically composed of armoured fighting vehicles."<sup>23</sup>

According to Major-General Sir John Kennedy, Deputy Director of Military Operations at the War Office, Hore-Belisha admired Liddell Hart's writings but Liddell Hart's theories of strategy and tactics were anathema to many professional soldiers and his influence with Hore-Belisha was greatly resented.<sup>24</sup> Additionally Liddell Hart had become compromised in the eyes of many in the War Office because of their perception that he was inextricably associated with the policy of limited liability regarding the commitment of the British Army to Europe. Liddell Hart sought to use his influence with Hore-Belisha to obtain for advocates of armoured warfare key staff and command positions within the War Office and the mobile divisions then being formed, writing to Hore-Belisha of: "the need of giving command of such new-style formations to men who have had experience in mechanized movement, and the folly of entrusting them to those who have not."<sup>25</sup>

Although there was a political purge of the Army's higher direction in 1937, Liddell Hart's efforts to secure key positions for enthusiasts for the establishment of an independent tank force capable of deep strategic penetration were largely unsuccessful, perhaps because the politician, Hore-Belisha, did not himself fully comprehend the scope and meaning of armoured warfare.

### 3.5 Summary and Conclusion

The purpose of this chapter has not only been description, but also explanation. Dominant personalities in the War Office and British Army high command between the two world wars tended to adhere to attrition as the strategy most appropriate for major warfare. It was held that a number of factors related to the depth of the modern battlefield would complicate the achievement of decisive battle. These were that difficulties in keeping an attacking army supplied would increase as troops advanced further beyond fixed railheads and supply points and that an attacker could not cross the battlefield with foot-mobile infantry and horse-drawn guns before physical exhaustion brought the attack to a halt. Motorization could be a solution. The British Army motorized to increase logistical efficiency, bring artillery into action closer to the centre of the battle and improve infantry mobility. Though this solution may have been flawed because of a failure to perceive that the army might need not only mobility but also the particular combination of mobility and striking power associated with an elite armoured force, it can be summarised that, by 1940, British infantry had significantly improved its capability to move rapidly over great ranges to achieve operational strategic advantage.

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#### ENDNOTES TO CHAPTER 3

1. See Richard Simpkin, Mechanized Infantry (London: Brassey's, 1980), p. 10, for dragoons' mobile mounted/dismounted role and Year Of The Yeomanry 1794-1994 (Winchester: Army Museums Ogilby Trust, 1994) for accounts of yeomanry roled as 'mounted infantry'.

2. Richard Simpkin, op.cit., pp. 10-11. The Royal Green Jackets and The Light Infantry comprise today's Light Division. For Moore's ambitions for light infantry in the Penninsular War, see Christopher Hibbert's Corunna (London: Pan, 1967), p. 25.

3. For these and other technical aspects of British tank design and development between the wars see David Fletcher, Mechanised Force: British Tanks Between The Wars (London: H.M.S.O., 1991) and Colonel George Forty, "Armour" in M. Nicholls and L. Washington (eds.), 'Against All Odds': The British Army Of 1939-40 (London: National Army Museum, 1990), pp. 14-21.

4. For numbers, equipment and organisation: Major Edgar O'Ballance, "The Development Of British Armoured Doctrine", An Cosantóir: The Irish Defence Journal 25 (July 1965), pp. 357-363; and Lieutenant Colonel Harold Winton, "The Evolution Of British Mechanised and Armoured Doctrine 1919-1938", Royal United Services Institute Journal 130 (January 1985), pp. 57-65.

5. 000944/03 Major A.H. Austin, interview/transcript, "Mechanisation Of The British Army 1919-1939" (London: Department of Sound Records, Imperial War Museum, 1976-77), reel 02/ page 18.

6. 000868/03 Major General R.F.K. Belchem CB CBE DSO, "Mechanisation Of The British Army", reel 03/page 25.

7. Official operational and tactical analyses summarised: O'Ballance, op.cit. p. 359, Winton, op.cit. p. 61.

8. For background: Winton, op.cit. p. 63, O'Ballance, op.cit. p. 359, and Brian Bond, "The Mechanization Of The British Army In The 1930's: The Impact Of Technical Innovation On A Conservative Institution", Militärhistorisk Tidskrift 187 1983: 117-18.

9. 000991/03 Viscount Robert Clive Bridgeman, "Mechanisation Of The British Army", reel 01/page 07.

10. Winton, op.cit. p. 63. Forty, op.cit. p. 17.

11. 000862/05 Major General H.M. Liardet CB CBE DSO DL, "Mechanisation Of The British Army", reel 03/page 34.

12. 000968/02 Colonel Sir Douglas Scott Bt, "Mechanisation ...", reel 02/page 18.

13. Liardet, reel 03/page 38.

14. Quoted in R.H. Larson, The British Army And The Theory Of Armoured Warfare, 1918-1940 (Newark: University of Delaware Press, 1984), p. 122.

15. There is a short biography of General Brander in Major General Patrick Turpin's The Turn Of The Wheel: The History Of The RASC 1919-1939 (Buckingham: Barracuda, 1988), p. 226.

16. 000834/08 Brigadier R.N. Harding-Newman MC, "Mechanisation ...", reel 04/page 44.

17. Report Of The Committee On 3-Ton 6-Wheeled Lorries (London: The War Office, 1934), p. 8.
18. Brigadier D.J. Sutton and Colonel J.S.M. Walker, From Horse To Helicopter: Transporting The British Army In War And Peace 1648-1989 (London: Leo Cooper, 1990). p. 127.
19. Larson, op.cit. p. 197.
20. 000944/03 Major A.H. Austin, reel 02/page 28.
21. General Sir Archibald Montgomery-Massingberd, The Autobiography of a Gunner, unpublished memoir, n.d., p. 53, Montgomery-Massingberd papers file 159, Liddell Hart Centre for Military Archives, King's College, London.
22. Montgomery-Massingberd's Autobiography of a Gunner is cited by Larson as his authority: Larson, op.cit., pp. 185-6.
23. The Times, 15 March 1936.
24. Major-General Sir John Kennedy, The Business Of War (New York: William Morrow, 1958), p. 14.
25. Quoted in R.J. Minney(ed.), The Private Papers Of Hore-Belisha (London, Collins, 1960), p. 60.

## INTRODUCING THE TWO GREAT CAPTAINS

### 4.1 Introduction

This chapter deals with the professional careers of Montgomery and O'Connor up to, but not including the two cases dealt with in Chapter 5. It addresses each's experiences of active service in the First World War and of soldiering between the wars from a perspective of the development of their operational art. It attempts to summarise the leadership styles and command strengths which were to make them outstanding commanders.

A tendency in modern scholarship is to define 'command' as a collaborative activity and the commander's function as largely managerial. Interest in generalship - the study of great captains and commanders - has diminished in favour of studying the mechanics of command and command systems. A problem with such an approach is that it is often assumed that 'command' and 'leadership' are the same thing. It may be more helpful to treat them as two separate but related functions of 'captaincy' and it can be argued that both are required of those exercising military direction at the highest levels if an army is to function effectively in war.

The hypothesis flowing from the research problem suggests that in war the leadership strengths of a commander, particularly his command skills and operational strategic insights can compensate for an enemy's technological primacy and achieve significant strategic advantage. The test of operations would show that Montgomery and O'Connor were effective leaders. They were also skillful commanders with the ability to understand the

significance of techniques of moving by unarmoured vehicle for operational military strategy if brought to an adequate level of efficiency or fighting capability. We first encountered Montgomery and O'Connor towards the end of 1938 during unrest in Palestine. O'Connor was in Jerusalem in command of the 7th Division, Montgomery was in Haifa commanding the 8th Division. To further set the scene for understanding their command skills and their strategic abilities it is essential to investigate their earlier military experiences. Their paths had first crossed some thirty years earlier at the Royal Military College, Sandhurst. O'Connor, son of the late Major Maurice O'Connor of the Royal Irish Fusiliers, joined a year after Montgomery, the son of an Irish Anglican bishop. Neither's military thinking was particularly radical, revolutionary or unorthodox. Their principles, or methods, were rooted in the experience of the British Army, expressed in Field Service Regulations, as to what was considered essential to success at the operational level of war.

#### 4.2 Experiences and Development

Montgomery's experience of the First World War began amidst the general retreat of the British Army from Mons to the Marne. He was made a companion of the Distinguished Service Order (D.S.O.) and badly wounded during the first Battle of Ypres (October–November 1914). After hospitalization in England he was declared unfit to return to France and appointed to training duties in 1915. However, he returned to the Western Front as Brigade-Major for 104th Brigade, 35th Division and was present at the Battle of the Somme (June 24–November 13 1916). Thereafter he held staff appointments of increasing importance in General Sir Herbert Plumer's Second Army. He was a staff officer with the 33rd Division during the battles of Arras and the series of battles which are known by the general

title of Passchendaele (April 9-15; July 31-November 10 1917). He ended the war as a temporary lieutenant-colonel and Chief Staff Officer of the 47th Division. Staff and command appointments followed between the wars.

When the First World War began O'Connor was a signals officer in 22nd Brigade, 7th Division. He was constantly involved in many of the major operations of 1914 and 1915 and was one of the first recipients of the newly instituted award, the Military Cross. For a time he was missing during the Battle of Loos (September 1915). In November 1915 he was promoted Captain and given command of the 7th Division's Signals Company. In 1916 he was also involved in the Battle of the Somme. Later that year he was promoted acting major and appointed Brigade-Major for 91st Brigade, 7th Division. As Brigade-Major, 185th Brigade, 62nd Division he was constantly engaged in directing action during the 1917 Spring offensive against the series of German defensive zones known to the British as the Hindenburg Line. In June of that year, having also been made a companion of the D.S.O., he returned to 7th Division and commanded the 2/1st Battalion, the Honourable Artillery Company (H.A.C.) as an acting lieutenant-colonel during the Passchendaele Campaign. In November 1917, 7th Division was transferred to the Italian Front. In view of his successes against the Italians in 1940-41 it is ironic that he was awarded the Italian Silver Medal for Valour for leading a successful operation against superior Austrian forces occupying positions on the island of Grave di Papadopoli in the River Piave in 1918. A variety of staff and command appointments in Britain and overseas followed in the inter-war years.

After the First World War a culture of remembrance evolved in Britain that was nonetheless critical of the war's human costs and of Britain's First World War generals. There was a widespread perception that they had been incompetent commanders who had epitomised a style of leadership inappropriate for the type of army which had come into being during the war. Montgomery's own experience of active service in the First World War was of great

importance for the development of his style of leadership and doctrine of command. In his Memoirs he cites three problems which he thought had negatively affected the efficiency of the British Army as a fighting machine.<sup>1</sup> Senior commanders and command structures, he decided, had failed to rise to the challenges posed by the massive and rapid expansion of the pre-war professional army into a largely Territorial, volunteer and conscript one. He was appalled by the casualty rates which were such a feature of the British experience on the Western Front. He also began to reflect on the problem of how operational and tactical command could be effectively exercised at the divisional level under modern conditions.

Certain that there would be another major war, and that he would exercise high command in it, he set out to master the science and art of commanding an army. His conclusions on the requirements of generalship, flowing from his analysis of what the First World War had revealed about what was wrong with the army, are to be found in his History Of Warfare.<sup>2</sup>

A commander-in-chief, he decided, has to guide, inspire and motivate the creation of a positive "atmosphere" (Montgomery's word) throughout his command by providing an unambiguous overall concept of operations and making sure that his commanders at all levels and his troops understand his general intentions and what is expected of them. Unlike O'Connor, who had commanded the H.A.C. - part of the Territorial Force (from 1921, the Territorial Army) Montgomery had little experience of the Territorial Army (T.A.) until a staff appointment with the 49th (West Riding) T.A. Division, based in York, from 1923 to 1924. The relevance of his experience of training the 104th Brigade (part of Kitchener's volunteer army) can be assumed, however, in respect of the importance he attached to this requirement of generalship and the need for the general to, as Montgomery put it: "get himself over" to his troops.

The general has to create the fighting machine and forge the weapon to his own liking. Montgomery's concept of major operations was that which he had learned as a

staff officer in Plumer's Second Army: careful planning and meticulous preparation for operations designed to secure strictly limited objectives could reduce the casualty rates which were a feature of attrition strategy. Montgomery believed that casualties should be reduced to a minimum whenever possible. The importance of planning, training and morale was Montgomery's contribution to this.

O'Connor was equally dismayed by the casualties produced by adherence to an attrition strategy on the Western Front. Kenneth Startup<sup>3</sup>, in his dissertation from which most later accounts of O'Connor's life and career have to be largely derived in this dissertation, says:

O'Connor was dismayed by the losses, which he believed were the result of the strategic situation on the Western Front; a situation which virtually precluded the use of "flanking" and surprise movements, and one which compelled officers to send their men against prepared defensive positions in murderous and archaic frontal assaults.

After one action in April, 1917, in which the 185th Brigade suffered heavy losses O'Connor wrote angrily in his diary: "This is just the sort of thing they do in the damned Army. Everyone was very sorry, but that does not bring good men back."<sup>4</sup> In the Reutel-Broodseinde action at Passchendaele the H.A.C. also took heavy casualties. Such experiences led O'Connor, like Montgomery, to emphasise the importance of training, not only for efficiency but for minimizing casualties.

A most important requirement of generalship for Montgomery is that the commander must create an organization at headquarters which enables the effective exercise of operational command. His experience as 'Chief of Staff' of the 47th Division in 1918 impressed on him the importance of a commander's having a good Chief of Staff and Staff. For Montgomery, however, the ideal was the integration of operational and tactical command. Therefore, a commander should position himself close to the fighting troops.

At this point, some reference should be made to the Post-war Field Service Regulations (F.S.R.) of 1920. Revised between the wars in 1924, 1929 and 1935, they were

a sort of primer for the guidance of commanders, summarising the British Army's formulation of the military 'principles' or methods by which certain results can be attained. Among the most important are, firstly, the desirability of deciding the aim or object. Reflecting the Army's adherence to attrition strategy in the First World War, the Regulations reaffirmed that battle is the decisive factor in war.<sup>5</sup> This is substantiated by the need to act offensively whenever possible. There is also the need to ensure that all the Services and all parts of the Army co-operate. Next, there is the need to be mobile and to seek constantly to surprise the enemy in order to, finally, effect a concentration of greater force than the enemy has at the point where you intend to strike the decisive blow.

These principles were often described by students at the Staff College, Camberley, as 'blinding glimpses of the obvious'. Montgomery and O'Connor completed the second post-war course at the Staff College in 1920-21.

For Montgomery, a successful plan of operations required application of the principle of 'balance':

My own military doctrine was based on unbalancing the enemy by manoeuvre while keeping well-balanced myself - as I have been indicating. A short title for this tactic would be 'off-balancing manoeuvre'. I planned always to make the enemy commit his reserves on a wide front to plug holes in his defences. Having forced him to do this, I then committed my reserves in a hard blow on a narrow front. Once I had committed my reserves, I always sought to create fresh reserves.<sup>6</sup>

In other words, the commander's plan should aim at the creation of an unfavourable situation for the enemy by manoeuvre, but allow him the flexibility to cope with things ranging from enemy action to accidents or incompetence that prevent operations from going exactly as planned.

Once, when asked for the sources of his methods, O'Connor said:

Well I think its what one's taught really I mean er - its the proper way to think of tactics, I mean the surprise is the base of all tactics and if you can produce a surprise on your enemy you're half way

there, if not more.<sup>7</sup>

He was well placed to comprehend the capability for manoeuvre provided by motorization. He spent three years from 1921 to 1924 as Brigade-Major for the Experimental Brigade, also known as the 5th Brigade. Formed when it was still uncertain whether mechanical transport should entirely replace horse transport at all and when the British Army was making do with a motley collection of transport vehicles left over from the War, its principal task was to run exercises testing procedures for the integration of infantry, tanks, artillery, and sometimes aircraft, and the mobility and the administration of fast-moving, mobile, mechanized forces. It was also involved in the training in new techniques of those battalions sent to make up the brigade, which changed every few months. Most important, when commanding the 7th Division in southern Palestine from 1936 to 1938 he used motorized columns to test the proposition that mixed, mechanized forces could provide commanders with the capacity to execute operations involving wide lateral movements speedily.

Driver A. Morrison's narrative of his service as a driver with the R.A.S.C. in Montgomery's 8th Division area indicates something of the Army's capability of moving by lorry around 1938:

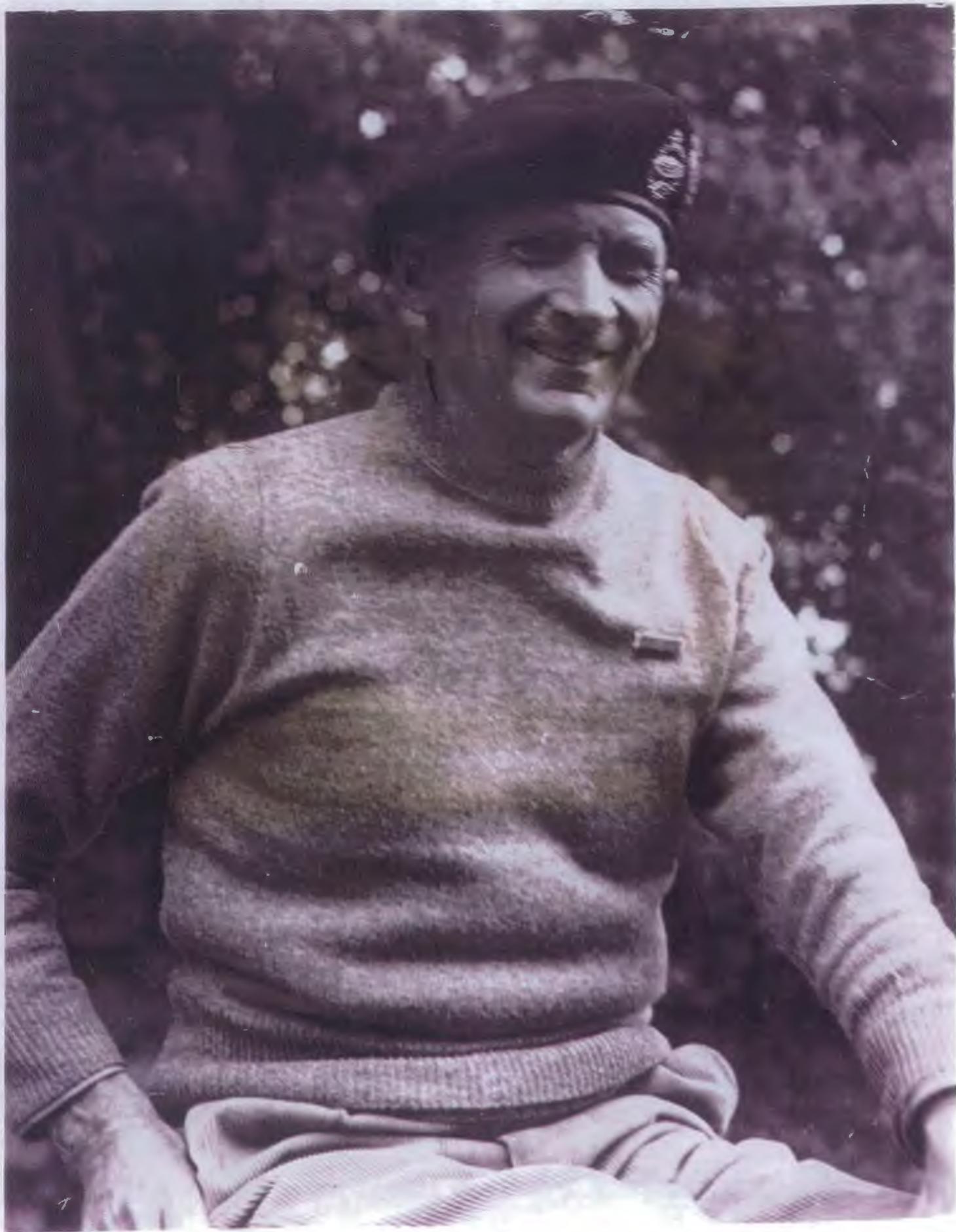
We left the camp at seven one morning, ten three-ton lorries being loaded with supplies. The convoy consisted of two escort vehicles, one in the front and one at the rear, the ten lorries, an ambulance, a radio truck manned by two signal corps men, and an open lorry carrying six large donkeys which we used to carry supplies from the road to some of the outposts.<sup>8</sup>

O'Connor returned to the Staff College as a member of the Directing Staff from 1927 to 1929. Montgomery was also an instructor there at this time. Major-General Sir Frederick Maurice's book, British Strategy was based on lectures he delivered at the University of London and the Staff College between 1927 and 1929. It is perhaps worthwhile therefore to conclude this section with the following quotation from Maurice's penultimate chapter<sup>9</sup>:

In great or in small war mobility, surprise and a clear well-chosen object are the principal means of effecting that concentration which brings superior power to bear at the right time and place, and those developments with which we are now experimenting tend, by providing mobility, to help us to employ the special powers which we possess in the best way (emphasis mine).

#### 4.3 Command and Leadership

The attempt to identify the qualities required of a successful commander has been a staple of military writers down the ages. John Keegan identifies two broad trends of approaches.<sup>10</sup> 'Trait' studies take as their premise that those who exercise high command have certain common characteristics and qualities such as energy, decisiveness and self-confidence. 'Behaviour' studies attempt to identify patterns of behaviour which distinguish leaders, particularly the roles of the successful leader as inspirer and motivator. While agreeing that certain traits and behaviour tend to be common to all really great commanders, Keegan's argument against both the 'traits' and 'behaviour' methods may perhaps be summarised as a criticism of their shared assumption that the essentials of generalship and high command are invariable and unchanging. A case could be made, for example, for his argument that since the mid 19th century what he has described as 'heroic' leadership has become obsolete as far as senior commanders are concerned. As weapons development has driven commanders from the forward edge of the battlefield, the development of the telephone, telegraph and telecommunications have made more and more possible the option of commanding ever-larger armies from the rear. However leadership and high command are practised today in the Nuclear Age, Keegan argues that, in the past, a number of imperatives have combined to define 'captaincy', or military leadership in the higher sense. The successful leader, he suggests, is: "the person who has perceived command's imperatives and knows how to serve them".<sup>11</sup>



1

MONTGOMERY



2

O'CONNOR

© T.M.M.



3

(L.to R.) O'CONNOR, LIEUTENANT GENERAL DEMPSEY, MONTGOMERY, 1944

C:IWM.

The most important of these is that the commander be present in person and share the risks to life and limb presented by the experience of battle so far as is compatible with allowing him to control the battle. There is also the requirement that commanders must know a great deal before they act and see what they are going to do. In the acronym C3I (command, control, communications and intelligence) often used by modern armed forces, 'intelligence' and 'control' refer to such knowing and seeing. In other words, the commander has to assess the information from intelligence on such things as the enemy's whereabouts, strength, state, capabilities and intentions and direct its dissemination through the command system in the way that ensures its most effective use. These first two of Keegan's imperatives suggest the techniques of command and control demanded of the successful commander. The capacity not just to take decisions but to inspire, motivate and if necessary compel soldiers to risk their lives following through on them requires three preconditions, or further imperatives.

Firstly, there is the imperative of kinship. The troops must feel that they know their commander and believe that he cares for and understands them. For such a bond of kinship to come into being the commander, in turn, must thoroughly understand the nature of the men he commands. This process can be helped if the distance between the commander and his subordinates, in their various grades, imposed by the hierarchical nature of armies, is occasionally penetrable by personal access either inward, outward, or both. More important, however, is his choice of subordinate commanders. Their selection and quality is crucial to the relationship that he manages to establish with those to whom his orders are transmitted. There is also the imperative of prescription, that is, the commander must know how to communicate with his troops and tap the power of human emotion. He must be able to convey to his men through words not only an impression of himself but also something of his plans and ambitions, so that these become transformed into a shared enterprise. Lastly, there

is the imperative of sanction. Sanction, an essential component of command, can be negative - in which case it can manifest itself as coercion and even, as a last resort, as physical force. It is more desirable, however, that this aspect of sanction remain implicit and that the force of sanction be made explicit as a positive, that is, as a system of awards and decorations.

The remaining part of this chapter is concerned not so much with Montgomery's and O'Connor's interpretations of the principles which underlie effective command, which might be called their doctrines of command, nor yet with their views on the management of command, that is control, as this ought to be reflected in the command system, influenced as these were by their common experience of active service in the First World War and a shared critique of the military conduct of the war on the Western Front. Instead, it deals with some of the techniques by which they served the imperatives of command. In other words, it attempts to address how Montgomery and O'Connor synthesized high military command and control with leadership in the higher sense so as to deserve the epithet 'Great Captains'. Because the subject of the next, final, substantive chapter is Montgomery's and O'Connor's strategic insights with respect to the effects of motorization on operations, it is relevant to consider how each utilized motor vehicles as tools or aids in the captaincy of their armies.

In their practice of generalship, 'Monty' and 'Dick' O'Connor would manifest a determination to get away from what both regarded as the deficient chateau generalship of the Great War when, as Montgomery would write in his Path To Leadership: "it was rare for a senior commander to be seen in the forward area during a battle - a brigadier possibly, but not a general!".<sup>12</sup> O'Connor's 'forward' headquarters in December 1940 was so small as to consist of only one office truck. He would, as soon as he got information in, go off in his Humber staff car and see his commanders in the forward areas, taking only a small staff with him. This insistence on making visits to his

troops in the front line and on personal reconnaissance dangerously far forward would result in O'Connor's capture on the 6/7th April, 1941, his car having been ambushed by a German patrol. Nevertheless, as it summarises how O'Connor employed motorization to serve the imperative of example during his Libyan Campaign, it is helpful to quote the following sentence from Kenneth Startup's dissertation: "O'Connor was the epitome of the front line commander, who is completely at ease when conducting a campaign from the back seat of a staff car, with only a small headquarters truck nearby."<sup>13</sup> An important aspect of the process of consolidating British military motorization between the two world wars was the widespread adoption of staff or command cars for the purposes of providing an environment in which senior officers could study paperwork and maps and converse on the move. The most ubiquitous of the bigger British staff cars of the Second World War period was the 85-horsepower Humber 'Snipe' Mk. 2, in either Saloon, Tourer, or Heavy Utility versions. Although O'Connor's Humber was most probably a heavy utility version, the tourer is probably the best known version due to Montgomery's use of a number of these vehicles during the war. The point, however, is that both can fairly be said to have expanded the conventional understanding of why a car was provided for senior officers.

Equally aware of the importance of intelligence and control as prerequisites for effective military action, both O'Connor and Montgomery attempted to harness motorization, not always with unqualified success, to solve the problem of acquiring 'real time' intelligence and putting it to immediate use. As explained, for Montgomery the ideal was the integration of operational and tactical command, so a commander should position himself close to the fighting troops. In his 'Encounter Battle' articles of 1937 and 1938 he had advocated this for the modern divisional commander. Between 1942 and 1945, he would seek to make it the cornerstone of his system for controlling ever-larger formations, eventually by splitting his headquarters into three parts, Tactical, Main and Rear,

and placing himself at the small and mobile 'Tac HQ' well forward in the battle area. The feasibility of controlling armoured and mechanized formations by voice communication from a command vehicle had been demonstrated as early as the 'Mechanized Force' manoeuvres of 1927 and 1928. O'Connor had trained as a signals officer. Nigel Hamilton narrates that the 'hub' of Tac [8th] Army was the armoured command vehicle which housed the small operations staff with radio operators and their sets from which it was possible to keep communications open with Main HQ and to all Corps HQs.<sup>14</sup> This was probably an A.E.C. Mk. 1 'Dorchester' which was built on the chassis of the A.E.C. 'Matador' gun tractor. However, the majority of command vehicles at the centre of Montgomery's Tac HQ during the war would have been lorries fitted with wooden 'house' (or office) bodies based on the Bedford QL chassis. One of the roughly thirty to forty vehicles which might make up Tac HQ at any one time was Montgomery's office caravan. By coincidence, this had been built for the famous Italian General, Barba Elettrica ('Electric Beard') Bergonzoli - only to be captured by O'Connor's forces and remounted on a Leyland 'Retriever' chassis. Thus, whether it was O'Connor in his Humber, carefully observing and noting the topography upon which his army would operate and visiting his subordinate commanders to make operational decisions immediately and personally, or Montgomery, who based his technique of operational control on a mobile tactical headquarters with good communications, each harnessed motorization in significant ways to serve the imperative of action.

Their experience of active service on the Western Front in the First World War gave Montgomery and O'Connor a thorough understanding of the ordinary, intelligent and often fundamentally unmilitary servicemen they commanded between 1939 and 1945 who had been plucked from civilian life to become warriors. In the First World War, O'Connor and Montgomery had experienced the remoteness of the High Command. They therefore knew the importance of 'command recognition', that is, the degree to which the ordinary

soldier knew his superior officers. They made personal contact with their troops whenever they could. Direct contact is, however, not always possible. A device to overcome this problem of recognition at a remove that was particularly Monty's was his adoption of peculiar headgear combined with an eccentric form of dress, which made him instantly recognizable even at a distance. While Montgomery and O'Connor would always express complete confidence in their soldiers' fighting spirit, their men knew that their commanders were determined not to get them unnecessarily killed or entrust them to incompetent superiors. This mutual confidence further strengthened the bonds of kinship between Montgomery and O'Connor and the troops they commanded.

Montgomery and O'Connor were, however, very different types of men. Montgomery was wiry, opinionated and when he thought it was necessary could be something of a showman. He had remarkable theatrical gifts and a talent for self-presentation which he used to serve the imperative of prescription by addressing large gatherings of troops. He also quickly realised the importance of the national press and the army's own press organs for communicating with - and motivating - the soldiers he commanded. O'Connor was slight, diffident and with a manner of self-presentation and prescription which, while gaining him the complete confidence of his men, was always low-keyed. This can be illustrated with the following story recounted to this writer:<sup>15</sup>

Men have fond memories of him. One, a Rifleman and P.O.W. of the Japanese told me that on his release he met O'Connor in India. The General invited him to tea at his house and as he had no proper Cameronian uniform, gave the ex-P.O.W. his own (the General's) Cameronian Balmoral."

Finally, Montgomery's and O'Connor's frequent employment of the traditional positive sanction of decoration was a factor which enabled them to preserve such a remarkably high degree of morale in their formations, in spite of often acutely uncomfortable campaigning conditions, that

the full force of negative sanction must rarely have had to become explicit. As will be noted again in the next chapter, however, Montgomery was ruthless in attempting to exercise the negative sanction of dismissal in the case of officers he thought incompetent.

#### 4.4 Summary and Conclusion

The purpose of this chapter has been to appraise the leadership strengths and command skills of Montgomery and O'Connor from a perspective of how they understood and served certain crucial requirements of high military command and leadership in the higher sense and to assess the relevance of their earlier military experiences for the insights into motorization which they would demonstrate in 1940.

It can be concluded that neither Montgomery's or O'Connor's approach to the art of commanding and leading an army in the field was particularly radical, revolutionary or unorthodox except with respect to risk. Their principles, or methods, were rooted in the experience of the British Army, expressed in Field Service Regulations, as to what was considered essential to success at the operational level of war. Their experiences of active service on the Western Front in the First World War, however, left both critical of the way leadership and command had been exercised and operations planned and conducted, and each was determined to improve this in their appointments and commands between the two world wars. Existing command structures substantiated the notion that forward presence was incompatible with effective operational direction, that is with senior commanders' responsibility for controlling the battle as a whole. The First World War had demonstrated, however, that this absence of forward presence by senior commanders had produced a military situation in which command and control tended to become

separated. Put another way, tactics in the First World War were developed at lower unit levels, and became separated from the operational thinking of general headquarters. Armies had simply become too large for senior commanders, however elaborate their information-gathering means, to grasp where the opportunity for outcome lay. Montgomery and O'Connor were among those thoughtful, progressive officers convinced that a particularly important technological innovation which could reintegrate command and control by restoring vertical communication through the command hierarchy of an army reorganized for open, mobile warfare was the improvements in radio and wireless communication with which the British Army was experimenting. Their additional contribution to a solution to the problem of operational command was a perception that the full potential of techniques of automotive movement for forms of manoeuvre at the operational level, according to the latest British war establishments, would sometimes require the commander's forward presence if speed, surprise, flexibility and ingenuity were to be allowed their full rein. This would be dependent upon the availability and use of appropriate technology in the form of suitably powered staff cars and operational command vehicles with good communications.

It was explained that the growth of mass armies in the 19th and early 20th centuries made personal leadership by generals increasingly difficult, yet the heroic expectations of the leader persisted. Montgomery's and O'Connor's perception, however, that advances in communication and transportation between the two world wars had begun to make it possible for the commander to be able to leave his headquarters and move rapidly around his command, while remaining in contact with his staff had the further consequence of recreating the senior commander as personal leader. Very conscious that they were leaders of the army of a democracy in a people's war, O'Connor, but particularly Montgomery, attempted this limited form of heroic leadership in the Second World War so successfully for the purpose of establishing a common

bond with the ordinary, intelligent and often fundamentally unmilitary "warriors for the working day (Shakespeare: Henry V)" they commanded, that they deserve the epithet, "Great Captains".

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#### ENDNOTES TO CHAPTER 4

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## CHAPTER 5

### MONTGOMERY AND O'CONNOR: THE TWO CASES

#### 5.1 Introduction

At the end of the last summer of peace, a few days before the outbreak of the Second World War, Montgomery took command of the 3rd Division, British Expeditionary Force (B.E.F.). Similarly, a few days before Italy's declaration of war on Britain in June 1940, O'Connor took command of the Western Desert Force in Egypt. This chapter contains descriptions of the principal features of the opposing plans for operations in North-Western Europe and North Africa as envisioned by these two commanders, both faced as they were with enemies with superior armaments. The chapter goes on to explain, compare and contrast how they coped with the problems of compensating for inferiority with initiative and original thought in the utilization of the second order armaments at their disposal. The chapter does not purport to be a continuous narrative of events nor a comprehensive account of the Battles for France and North Africa. It does, however, aim to be coherent and complete as far as the operations which constitute the applications of motorization are concerned. This will require reference to general developments in the course of these campaigns.

In the first case, the Allies were faced with a sudden, unorthodox stroke which benefitted from surprise in time and space, requiring a response to save British forces. Thus, this chapter is concerned with the operational strategic consequences of Montgomery's application of techniques of motorized movement to effect the simultaneous and sequential actions conducted by his 3rd British Division

subsequent to the cracking of the Belgian line on 26th May 1940, until 3rd Division's withdrawal into the the Dunkirk perimeter on 29/30th May. It explains the contribution of his application of motorization to the extrication of the B.E.F. from the disadvantageous, apparently untenable situation in which it found itself after its manoeuvre into Belgium.

In the second case, the stroke was against the Axis forces in the Western Desert. This chapter is thus also concerned with O'Connor's application of procedures of motorized movement to deploy a force ahead of his limited armoured force in a blocking position across the coastal road south of Benghazi on 4/5th February 1941 to prevent the withdrawal of the Italian 10th Army and particularly its remaining armoured elements from Cyrenaica into Tripolitania ordered on 28th January. An application of the high mobility of motorized means of movement, the success of this manoeuvre contributed directly to the envelopment and final destruction of General Valentino Babini's armoured brigade, creating such an untenable situation for the Italians that Beda Fomm might be called a complete victory.

## 5.2 Plans and Preparations

The Allied plan for North-Western Europe - the Dyle-Breda Plan or Plan 'D' - derived from the French High Command anticipating the decisive point of enemy attack to come in the north, through Belgium in a repetition of the German operation in 1914. It was devised to counter such a stroke. It envisaged a continuous defensive line running through eastern Belgium, with one flank innundated and the other protected by the Maginot Line. Behind the Dyle river barrier, French, Belgian and British forces would be systematically disposed in considerable depth. In accordance with Plan 'D', the B.E.F. took up positions

along the Dyle, east of Brussels, from Louvain to Wavre.

The German operational plan, Plan Yellow, in its final form, the 'Sichelschnitt' manoeuvre, was an application of the general strategy of Blitzkrieg. The French border defences of the Maginot Line would be outflanked using von Bock's Army Group 'B', advancing through Holland into Belgium to draw the most mobile part of the Allied forces northward to its front. In the meantime the main German armoured and motorized forces, Panzer Groups Kleist and Hoth of von Rundstedt's Army Group 'A' debouched quickly through the Ardennes forest on a frontage between Dinant and Sedan and effected crossings of the Meuse with the object of achieving deep strategic penetration, cutting the communications of the Allied armies advancing into Belgium.

Montgomery had used the first winter of the war to train his division, not only for a move forward to occupy a defensive position in accordance with the plan to advance into Belgium but also for a withdrawal which might require a long, rapid, motorized movement of the division by night, in contact with the enemy. The following quotation explains his thinking:

The 3rd Division certainly put that first winter to good use and trained hard. If the Belgians were attacked, we were to move forward and occupy a sector astride Louvain behind the River Dyle. I trained the division for this task over a similar distance moving westwards, i.e., backwards into France. We became expert at a long night move, and then occupying a defensive position in the dark, and by dawn being fully deployed and in all respects ready to receive attack. This is what I felt we might have to do; and it was.<sup>1</sup>

In the ensuing months of the 'phoney' war Montgomery devised some five large-scale exercises with troops and his division became proficient in rapid movement in motorized transport. For present purposes Exercise Number 3 (early March 1940) is important. It involved continuous operations for forty-eight hours, in two definite phases. The first phase involved a night advance from the divisional area to secure before daylight a river obstacle some sixty miles distant. The second involved contact with enemy

armoured forces, disengagement by night from close contact, a fighting withdrawal to a position in rear and the organisation of that position for defence.<sup>2</sup>

These exercises were followed by divisional conferences. Montgomery explained what he thought had gone right and what he thought had gone wrong. He was ruthless in attempting to get rid of officers he thought 'useless'. 'Useless' was a word he used easily about those who irked him. On the other hand, he began to gather around him some of those he would later appoint to key positions in his Tactical H.Q. after he had split his headquarters into the three parts of Tactical, Main and Rear.

In the Western Desert, O'Connor's initial concern was with strengthening the defences of the area around Mersa Matruh, which was being prepared as the main base for future operations. To conserve his armour for future major operations it was concentrated south and south-west of Matruh. There it would be well sited to attack the southern flank of the Italian Army if an invasion was launched along the coast road. However, raiding took place through the 'Wire' - a fence put up by the Italians to mark the frontier - and offensive patrolling with armoured cars and lorry-borne infantry. Though called after Lieutenant-Colonel J.C. Campbell V.C. the credit for integrating the concept of these 'Jock' columns with tactical thinking and their development into a tactical system was largely O'Connor's.<sup>3</sup> Composed of a regular company of motorized infantry and either a troop or a battery of field artillery, employed to harass the enemy, to support the armoured cars in keeping contact with him, and to keep him from divining British intentions, the small, mobile, motorized Jock Columns must be distinguished from the many small-scale, irregular British units used for raiding, reconnaissance and sabotage. Nevertheless, they were then, and are now, viewed as a controversial development.

Creagh, commanding 7th Armoured Division, reviewing the operations of the Jock Columns in a letter to O'Connor of 25th September 1940, wrote:

One way and another we have now been operating for some four months and the machines and I include the wheels are definitely feeling the strain. We cannot get vehicle replacements and the difficulty I am confronted with is that if we expend our all too few assets on this type of operation we shall not be efficient when it comes to the main fight.<sup>4</sup>

Writing in 1986, Field Marshal Lord Carver felt that the success of these columns:

led to an exaggerated idea of the effect their action would have on a more resolute and better trained enemy; and discouraged the development of a closer co-operation between the tanks of the armoured division, concentrated in its armoured brigades, and its artillery and <sup>5</sup> infantry, grouped together in the Support Group.

Having advanced into Egypt, the Italians did not continue towards Matruh but stopped some twelve miles beyond Sidi Barrani and began to construct a series of strongly fortified camps on a perimeter starting at El Maktila on the sea and then following an arc in a south-westerly direction to Bir Sofafi, about forty miles away, then back to the coast along the rocky and hilly escarpment between Sofafi and Sollum. O'Connor recounts the genesis of 'Compass' in an account of his campaign which he wrote as a prisoner of war. The following quotation makes it clear that, although Wavell's concept for Operation Compass was the limited one of a major raid on the Italian positions in the triangle Sidi Barrani-Sofafi-Buqbuq to deter any further advance and preserve Egypt as a base for future British operations in the Eastern Mediterranean and South-Eastern Europe, O'Connor's planning could allow for the possibility of subsequent exploitation should the opportunity arise; also that in preparing the operation O'Connor was aware that he would have to contend with the problem of how he would move his army and keep it supplied:

I felt that as the enemy had refused to come forward, he must be attacked in his present positions.

The same conclusion had been reached by General Wavell who wrote to General Wilson [Commander, British Troops in Egypt] with a copy to myself, instructing him to examine the possibility of offensive operations limited to five days, with the object of striking the enemy in his present positions. The possibility of

exploiting local success was also emphasised. But neither then or at any other time was an ultimate objective given. In effect the operations were to be in the nature of a big raid which if successful was to be exploited, as far as our meagre administrative resources would permit.

Wavell's instructions included suggestions in considerable detail as to the operational strategies which might be employed, not all of which entirely satisfied O'Connor. O'Connor summarised his own plan as follows, in an interview recorded at the Imperial War Museum long after the war:

It was essential to my mind that we make some plan that would throw them off their balance and prevent them getting full advantage from the large numbers; large superiority of the numbers. And we were helped in this by the form of defence that they adopted which was - consisted of a number of - er - camps - strongly fortified, but, and here we'll see weakness; they were out of supporting distance of each other, and we therefore made up our minds that we'd take advantage of that and try and be with them individually. We therefore decided that we'd attack one particular camp and to make that attack more effective, we moved our troops round between two of the camps ... so that we could attack them from the rear - in fact the way their rations would come, which perhaps wasn't quite so.

O'Connor's plan, then, was to avoid the casualties which might be incurred in a frontal assault on the strongly fortified Sofafi positions on or below the escarpment where, anyway, the terrain did not favour the employment of tanks and lorry-borne infantry; instead, his plan was to surprise the Italians by passing through a gap identified in their defensive line at Bir Enba, and take the enemy camps in detail from the rear. O'Connor drew on his experiences of the benefits of proper and adequate training and the rehearsal of operations and had the various units taking part practise the last portion of the long, secret, motorized approach by night he required and rehearse the tactics to be employed.

O'Connor's plan for 'Compass' was for a tri-service operation, involving three simultaneous and sequential movements of land forces designed to cut off and destroy the Italian bridgehead in Egypt. The series of fortified

'boxes' in the Western Desert north of the Enba 'gap' and the Sofafi group of camps would be successively reduced from the rear using fifty Infantry (Matilda 2) tanks of the 7th Royal Tank Regiment with the infantry of the 4th Indian Division following up behind. The 7th Armoured Division would turn south from Enba for its motorized Support Group to strike at, or at least contain, Rabia and Sofafi while the division's two armoured brigades sealed off the entire area northward to Buqbuq. In the north, a mainly infantry force of roughly brigade strength drawn from the Matruh garrison would advance along the coast road toward Maktila and Sidi Barrani.

An overriding consideration throughout would be the administrative restriction imposed by O'Connor's need to simultaneously move his force and keep it supplied, even when the leading troops were at the extremities of support. It can be learnt from the papers of Major-General (then Major) C.M. Smith R.A.S.C. that the only administrative arrangements it was possible to make beforehand without arousing suspicion was to establish two widely dispersed, camouflaged and guarded forward supply dumps of all types of supplies in the open desert between the British and Italian armies.<sup>8</sup> To summarise, one can do no better than to quote Corelli Barnett, who said of O'Connor that: "he was the first desert general, British or German, to try to square the circle of finding enough trucks to feed, and move, the forward operations; the first to learn that victory depended on the three-tonner."<sup>9</sup>

The repulse of a large British raid on Maktila in October encouraged the Italians' belief that well and logically constructed static defenses were proof against direct British attack from their southern and eastern desert flanks and that therefore it would not be necessary for significant manoeuvre forces to parallel through the desert any advance along the coast. The Italian strategic intention, then, was an advance with semi-motorized, mainly infantry forces the sixty miles around the coast to Mersa Matruh, as a further stage in their advance on the Suez Canal. The campaign would be timed to take advantage of

cooler Winter temperatures, but its exact timing would be contingent on a vast infusion of material, especially transport vehicles.

In her diary entry for 16th September 1940 the Countess of Ranfurly (whose husband would be one of those captured with O'Connor the following April) referred to the Italian invasion of Egypt. She noted, apprehensively: "People say that the Italians have 300,000 troops in Cyrenaica and we have 30,000. They also say the Italians are better equipped than us."<sup>10</sup> On 10th May, Montgomery had begun a day-to-day diary with the following terse entry:

Enemy aircraft over Lesquin.  
Belgium and Holland invaded  
Plan D put into force - zero 1400 hrs.<sup>11</sup>

### 5.3 "Pergola of Fire": Flanders, 27/28 May, 1940

"We're standing on the Franco-Belgian frontier watching long columns of British troops and transports and supplies and guns coming through from France into Belgium," Bernard Stubbs reported for the B.B.C. on the 13th May 1940.<sup>12</sup> Already, the forward body of Montgomery's 3rd Division was on the Dyle. However, Belgium's strategy for defence against German attack - evolved independently of the 'Dyle' plan because of Belgium's neutrality until 10th May - had been undermined. The country's initial line of defence along the Albert Canal had been breached by German airborne attack. The bulk of the Belgian Army was in headlong retreat to a line east of Brussels, which was in fact, the Allies' 'Dyle' line, which they were now reinforcing.

On Whit Monday, 13th May, the day Montgomery's division assumed the defence of Louvain, Guderian's tanks crossed the river Meuse in France, at Sedan, and Rommel, whose troops had achieved the first crossing the previous evening, near Dinant on the Belgian Meuse, established a solid bridgehead across the river. The French reaction may perhaps be summarised as a series of attempts to contain

rather than to counter-attack the German lodgements across the Meuse while these were still without significant tank support. The crucial moment passed. Guderian swung right, making for the Channel coast. A panzer 'corridor' was created, splitting the Allied front in two. The Allied High Command failed to recognize the full measure of the danger posed by the German massed armoured and mechanized drive. By Thursday, the 16th, however, the threats of encirclement, then destruction, which now hung over the French 1st Army Group, the B.E.F., and the Belgian Army had become more and more obvious to Lord Gort, the B.E.F.'s commander.

Although the light tanks and carriers of its armoured reconnaissance regiment were forced to retire from the approaches to Louvain, 3rd Division managed to conduct a spirited, successful defence of the town itself, with close fire-support provided by the divisional machine gun battalion and concentration fire by the division's medium and field artillery. In often confused, close-quarter fighting, the enemy was forced to withdraw from lodgements established across the Dyle canal. Notwithstanding Montgomery's division's success in repulsing repeated German attempts to break into the Dyle Line, a staged withdrawal of the B.E.F. was decided upon, which would commence with a move back to the River Dendre and conclude with a retirement to the River Escaut, or Scheldt. Thus, only two months after training his division for a withdrawal of some sixty miles by day or night from a defended line under enemy attack, Montgomery was ordered to disengage his division and withdraw it that distance through Brussels to the Escaut.

The withdrawal was not an easy one. The 3rd Division's route of retirement was badly exposed from the north, subject to air attack and crowded with refugee traffic. Brooke ordered a brigade of II Corps' 4th Division to protect this northern flank. By dusk on the 16th, the bulk of the 3rd Division was successfully withdrawing to the Dendre. Brooke intended the 3rd Division to provide a defensive screen for 4th Division as it, in turn, retired

to the Dendre on the 17/18th after sappers had blown the Brussels canal bridges. The 4th Division's retirement was somewhat messy, however, and part of the corps cavalry screening its withdrawal was cut off on the 18th and almost totally destroyed. The bulk of 4th Division having withdrawn through 3rd Division to the Escaut, and having delayed the enemy on the Dendre for twenty-four hours, Montgomery was now ordered to disengage his division and withdraw it behind the Escaut. The hour for the commencement of this withdrawal was originally dusk on the 18th but this was altered to midday on the 19th and then dawn on the 19th to conform with the precipitate withdrawal of I Corps. Thus, Montgomery was forced to execute the final stage of withdrawal to the Escaut in daylight, which, he conceded, made this: "a very tricky operation".<sup>13</sup> By the evening of the 19th the whole of 3rd Division was behind the Escaut and forming part of a new front. It was responsible for the stretch of the river between Avelgem and Pecq. On the 20th a German attempt to bring forward bridging equipment and reinforce a temporary lodgement which had been made across the river was abandoned. The enemy withdrew after being engaged with machine guns and artillery. The following day further attacks developed and determined attempts to get across the river, this time in rubber boats. With artillery and machine gun support, these attacks were broken up before the enemy could cross the river or before he could land.

Events to the south were becoming ever more threatening, however, the arc of the German advance from the hills and forests of the Ardennes to Abbeville, near the mouth of the Somme cutting through a disorganized French resistance and completely traversing the B.E.F.'s Lines of Communication.

A defence of the B.E.F.'s south-west front and exposed right, or southern, flank was now attempted with improvised forces. A British spoiling attack was launched on the 21st toward Arras, which was considered central to the defence of this southern flank. Political expediency required Gort to agree to an offensive into the panzer

corridor, in conjunction with the French. There would be an offensive from north and south, starting not before the 26th.

Anxious as he was to re-establish operational contact between the B.E.F. and the French armies to the south of the panzer corridor, Gort was extremely doubtful as to whether these French armies could or would mount an attack northwards sufficiently powerful for the proposed offensive to have any chance of success. The extended nature of his front, the situation on his flanks, and a chaotic administrative situation were other factors which influenced him to sanction important members of his staff raising with the War Office the possibility of withdrawal on one of the Channel ports, probably Dunkirk.

A retirement of the B.E.F. from the Escaut, ostensibly to re-occupy the 'Gort Line' defenses which it had constructed along the Franco-Belgian frontier the previous winter was decided upon, the Belgians conforming with this move by withdrawing to the River Lys. Gort did not confide to his allies his near certainty that the planned counter-attack from north and south could not result in his force breaking out southwards and that the parts of the B.E.F. under his immediate command would have to withdraw on Dunkirk.

During the night of 22/23rd May, Montgomery withdrew his division to a position west of the French frontier near Roubaix. Units started thinning out after dark, with the bulk of units in position along their new line early on the morning of the 23rd. Reference must now be made to the operation known as the Wattrelos Counter-Attack which Montgomery ordered mounted while 3rd Division was in the Gort Line, the conception, planning, and execution of which remain controversial. Much of the criticism of this operation, which has since been described variously as a 'counter-attack', 'reconnaissance in force', or 'raid', has centered on the attempt to stretch the capabilities of carriers in counter-penetration and withdrawal operations to a capability to lead a head-on assault in this operation, as if they were tanks. At this time, also, Montgomery

personally presented the ribbons of decorations to those honoured in the first list of awards for this campaign.

An encounter between a 3rd Division patrol working across the Lys and a German staff car resulted in the capture of documents including details of a German plan to outflank the B.E.F. from the northeast by attacking the Belgian line in overwhelming strength between Ypres and Comines and penetrating through it to the B.E.F.'s left rear, while a simultaneous holding attack prevented the B.E.F. extending its left flank to restore the broken Belgian line. Meanwhile, the Luftwaffe would render the last French Channel port available to the B.E.F. - Dunkirk - untenable for the evacuation of any British forces which managed to escape being outflanked and destroyed. The German armour north-east of the B.E.F. would now merely hold the British right between La Basée and the sea, and so be conserved for future operations in the south. (In fact, the panzers would shortly resume their eastward drive). On Saturday, 25th May, Gort decided, finally, that attempting to save his army was a higher responsibility than serving the ends of Inter-Allied solidarity by remaining committed to the scheme for a break-out to the south assisted by a French offensive northwards and transferred to Brooke the bulk of the forces scheduled to take part in it to help Brooke try to hold the line facing eastwards and to extend its flank north-westwards. While the B.E.F. withdrew on Dunkirk, the troops would be embarked to fight another day and guns, vehicles and stores abandoned.

Brooke now began to use his additional forces to extend his flank to block the German advance on the Ypres-Comines Canal. He related that, on the 27th:

I proceeded to Bondues to see Monty at 3rd Division as I wanted to find out how he was getting on with the preparation for the very difficult move that lay ahead of him. He had to evacuate his present position and lead his division under cover of darkness across the Lys just east of Armentières, past Ploegsteert Wood, and up by second-class roads north-ward within 4,000 yards of the fluctuating front of the 5th Division, to north of Ypres, where he was to prolong

our eastern defensive flank north of the 50th Division. It was a task that might well have shaken the stoutest of hearts, but for Monty it might just have been a glorious picnic. He told me exactly how he was going to do it, and was as usual exuberant in confidence.<sup>14</sup>

Montgomery closed the gap which had opened between 50th Division and the Belgians by moving the main body of his division that night twenty-five miles, by means of some 2000 vehicles within a couple of thousand yards of the front on which 4th, 5th and 50th divisions were being heavily pressed by the enemy and which could give way at any moment, to take up an unreconnoitered position on the Yser Canal north of Ypres, being fully deployed by dawn (morning brought the news that King Leopold of the Belgians had surrendered with his army), and in all respects ready to receive attack. Montgomery thought it was: "the most difficult operation we had to do".<sup>15</sup> "All unit M.T., Sup. Coy. M.T. and some Gunner M.T. to be used for transport of personnel," stated the 3rd Division's War Diary.<sup>16</sup> The 8th Brigade, which comprised a battalion of Suffolks, a battalion of the East Yorkshire Regiment and a battalion of the Royal Berkshires, and the 9th Brigade, comprising the 2nd Battalion of the Lincolnshire Regiment, the 1st Battalion of the King's Own Scottish Borderers and the 2nd Battalion of the Royal Ulster Rifles, withdrew first, thinning out drastically after dusk. The 7th Guards Brigade, comprising two battalions of Grenadier Guards and one of Coldstreams, covered the withdrawal, and finally abandoned the position at one minute to midnight. Brooke later wrote:

There was little possibility of sleep that night, as the 3rd Division was moving past and I repeatedly went out to see how they were progressing. They were travelling, as we had so frequently practised for our night moves, with lights out and each driver watching the rear of the vehicle in front of him, which had the differential painted white and lit up by a tail-lamp under the vehicle. The 3rd Division through constant practice had become most proficient at this method of movement. However, with the congestion on the roads, road-blocks outside villages, and many other blocks caused by refugees and their carts, the division was frequently brought to a standstill. The whole movement

seemed unbearably slow; the hours of darkness were slipping by; should daylight arrive with the road crammed with vehicles the casualties from bombing might well have been disastrous.

Our own guns were firing from the vicinity of Mount Kemmel, whilst the German artillery was answering back, and the division was literally trundling slowly along in the darkness down a pergola of artillery fire, and within some 4000 yards of a battle-front which had been fluctuating all day somewhat to our disadvantage. It was an eere sight which I shall never forget. Before dawn came, the last vehicles had disappeared northwards into the darkness, and I lay down for a few hours disturbed sleep<sup>17</sup> but kept wondering how the 3rd Division was progressing (emphasis mine).

After Montgomery's important, successful flanking movement past the front of attack to take up his new position and his organization of a scratch force of machine gunners and armoured cars on the morning of the 28th May to screen his left flank from Noordschote to the coast which was uncovered due to the Belgian surrender, the 3rd Division made a further and far from simple retirement after its defence of the Yser canal with 50th Division on the perimeter of the Dunkirk bridgehead on the 29/30th May, the divisional sector being along the Nieuport-Furnes Canal north-east and south-west of Furnes.

#### 5.4 "Get to the Coast": Cyrenaica, 4/5 February, 1941

In the Western Desert of Egypt O'Connor's forces were successful in overcoming the camps which made up the Italians' forward defences. In a matter of days, the Italians had been driven completely from Egypt. Generally, the heavily armoured Matildas were able to gain rapid access to the center of each camp and silence the Italian artillery while the infantry of the 4th Indian Division carried in their immediate wake by trucks and lorries debussed to engage the Italian infantry around their machine gun pits and among trenches, tents and parked vehicles. Nevertheless, the initial failures of a direct attack and a flank attack by British infantry mounted on trucks against

the Sidi Barrani position, not authorized by O'Connor, demonstrated the limitations of motorized infantry against prepared defences and well directed artillery fire, when unsupported by armour. Despite learning that the 4th Indian Division, less its British infantry brigade, was to be withdrawn from his command and sent to the Sudan, O'Connor was determined to press his offensive forward and advance into Cyrenaica. Sustained efforts by the efficient and well trained Italian artillery and the sporadic and less efficient intervention of the Regia Aeornautica slowed his attacking columns, however, and facilitated the withdrawal of substantial enemy forces on the port of Bardia.

Bardia was a much more formidable defensive position than the camps had been. Its defences included extensive minefields, a wide anti-tank ditch and two lines of fortified posts behind deep barbed wire. The Matildas would need a way prepared for them through the minefields and across the anti-tank ditch. This task was to be undertaken by infantry of the 6th Australian Division, recently arrived to replace the Indian Division. Only one squadron of the Australians' own divisional cavalry would be available, and it would fight with carriers and machine guns mounted on trucks. A generally difficult administrative situation was at least partly relieved by stripping the 7th Australian Division (still in the Delta) of its transport, partly by the arrival (from Palestine) of some 50 heavy lorries and their crews and partly by pressing captured Italian vehicles into service. On 3rd January, 1941 the Australians struck at the Bardia defences from the west and south. The second day of the battle ended with the town itself captured, but with a strong enemy position still remaining in the south-east. A successful 'set-piece' attack with the infantry supported by tanks and artillery was put in against this position the following morning. Even before the fight for Bardia had ended O'Connor had sent a column in the direction of Tobruk.

As the defences of Tobruk replicated those of Bardia,

O'Connor's overall plan for its assault closely resembled that for Bardia. After sappers and infantry had broken into the south-eastern defences the breach would be widened by more infantry supported by tanks and then the penetration deepened towards the town itself. The capture of El Adem airfield to the south of Tobruk deprived the garrison of any possibility of significant air support. Tobruk was assaulted in the early hours of 21st January and captured the next day. To complete his conquest of Cyrenaica it remained for O'Connor to take the port of Benghazi. More importantly, if the Italian forces in Cyrenaica were to be destroyed once and for all, he had to maintain his offensive. To the west, some 40,000 Italian troops, supported by the Babini Armoured Brigade, held a series of positions along a line, Derna-Mechili.

The 7th Armoured Division invested Mechili, the key to the Benghazi bulge, or promontory, but was not able to prevent Babini's escape north-westwards. The 6th Australian Division pressed along the coast toward Derna, but the Italians used the difficult terrain to fight an infantry delaying action with considerable skill, allowing the garrison to withdraw westwards. On 3rd February, from aerial reconnaissance and reports of a sudden slackening of resistance to the western movement of the Australians after their capture of Derna, O'Connor correctly surmised that the Italians were about to abandon Benghazi (in fact Marshal Graziani had ordered the total evacuation of Cyrenaica the previous day) and to retreat down the coast where the route from Cyrenaica into Tripolitania goes through a narrow bottleneck between sea and mountains. In Tripolitania, a new and viable armoured force was being assembled around the Ariete Armoured Division, newly arrived from Italy. There was even a possibility that a German force could soon reach Tripoli. O'Connor decided that the object of his campaign would be forfeited if enemy armour was allowed to escape into Tripolitania. He was determined that the retreating Italians should not reach Tripoli.

What O'Connor intended was nothing less than an

immediate 150-mile advance of the 7th Armoured Division from Mechili across the desert flank of the fleeing Italians to intercept their retreat by cutting the coast road.

"There was", wrote the journalist, Alan Moorhead, "only one order of the day: 'Get to the coast'".<sup>18</sup> This advance began at daybreak, 4th February, 1941. The frightful nature of the 'going' is conveyed by Rogge:

Navigating by hand compass and standing up in their trucks to see, the officers nearly froze to death as the long lines of tanks, armoured cars, Bren gun carriers, trucks, guns and ambulances ground relentlessly on. For miles and miles across the terrible terrain that even the Bedouin seldom crossed, their speed rarely rose above 5 or 6 miles per hour. But they made it.<sup>19</sup>

O'Connor followed in his staff car. That afternoon, Msus was reached and cleared of a small Italian force. The pilot of a Hurricane on reconnaissance now inaccurately reported that the Italian armoured force was part of a column already moving south from Benghazi. A special, fast-moving British column of wheeled vehicles only, consisting of armoured cars of the 11th Hussars and the King's Dragoon Guards, a battalion of motorized infantry from the Support Group in the form of the 2nd Battalion, The Rifle Brigade, a battery of 25-pounder field guns of the 4th Royal Horse Artillery and some anti-tank guns of the 106th Royal Horse Artillery (Lancashire Yeomanry) was rapidly organized, placed under Lieutenant-Colonel John Combe and called Combeforce. Its orders were to cut the coast road as soon as possible, following a revised, more southerly axis of advance, and hold the enemy until the armour could arrive. This force moved off just before sunrise on 5th February. Macksey offers the following graphic description of Combeforce's progress across the desert hinterland south of the Benghazi promontory to the Gulf of Sirte:

Ahead went their old armoured cars; behind, jolting across undulating desert, came the trucks and lorries of the Rifle Brigade and then the guns, swinging rhythmically at the tail of their prime movers and limbers. Through driving dust - visible from miles

away to individual Italian aircraft swooping low for scattered attacks - vehicle commanders struggled to find an accurate course across uncharted ground.<sup>20</sup>

In a classic, just-in-the-nick-of-time deployment to bring the enemy to battle, Combefore reached the coast road and blocked it in the vicinity of Beda Fomm before the appearance of a seemingly endless Italian column in the early afternoon. "To this force," O'Connor wrote, "belongs the main credit for bringing about and making possible the successful battle which followed."<sup>21</sup> The attrition battle of Beda Fomm, which was to last nearly two days and result in a complete victory for the British and Commonwealth forces, had begun.

## 5.5 Recapitulation

The purpose of this chapter has been a substantial development of the theme of how O'Connor's and Montgomery's initiative and thoughtful use of the second order armaments at their disposal resulted in one case in the destruction of a major Axis force and in the other in the deliverance of significant British forces from equally sure destruction. The units which had originally evolved the British 'motor battalion' doctrine were inappropriately committed during the battle for France and virtually destroyed in the siege of Calais in May-June 1940. However, an important feature of both of the operations described in this chapter was the contrasting employment of the troop-carrying capability of means of transport and movement utilizing the internal combustion engine - mainly unarmoured lorries and cars - to achieve significant strategic advantage without tanks or at most with limited tank support. The two strokes of intelligent operational art described in this chapter permitted the two commanders not only to maximize the effectiveness of scarce armoured and semi-armoured assets but to bring to an adequate level of efficiency in mobile operations motorized infantry as the nucleus of a mixed

force in the absence of a viable armoured force. Both the applications of motorization described in the chapter demonstrate that it is possible for a commander to use mainly second order technology to achieve the capacity for success in operations against an enemy which has seemingly decisive technological advantages. In other words, they provide evidence that satisfies the demands of the hypothesis for this study and answers subproblem one.

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#### ENDNOTES TO CHAPTER 5

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## CHAPTER 6

### ANALYSIS

#### 6.1 Introduction

The British war poet, Keith Douglas, in a poem of 1941 wonders if time would show him "of the world deserving mention or charitable oblivion."<sup>1</sup> Montgomery's and O'Connor's conduct of the operations selected is noteworthy, it is suggested, particularly for the evidence they provide that under certain circumstances a commander may win through with mainly second order technology and armaments against an enemy with numerical and technological superiority. That the response which saved the B.E.F. in May 1940, allowing it to successfully withdraw to the sea at Dunkirk, rested in substantial measure on the Army's capability of moving by unarmoured vehicle was not lost on the British leader, Winston Churchill. He suggests in his history of the Second World War that it represented: "one of those rare but decisive moments when mechanical transport exercises its rights."<sup>2</sup> It can be argued that this also holds good for the Western Desert Force's race to get to the coast at Beda Fomm. Underlying the success of these operations was both commanders' employment of an adequate troop-carrying capacity to enhance their operational strategic capabilities. Indeed, it is clear from Chapter 5 that there were a large number of similarities between the two cases. There were also important differences, or dissimilarities. The purpose of the present chapter is an analytical restatement of the many similarities, with the significance of the most important dissimilarities carefully noted, leading to an explanation of how Montgomery and O'Connor gained their advantages.

## 6.2 Montgomery's and O'Connor's Conduct Of Operations Analysed

A common feature of Montgomery's and O'Connor's conduct of the operations selected, rooted in their individual experiences of active service in the First World War, was their conscious attempt to embody or represent a style of leadership and command different from that which they believed had negatively affected the British Army's efficiency in that war. While convinced that a good Staff was vital, they practiced parity of esteem with the staff officer for regimental officers and absolute impartiality as to whether or not an officer was a Regular or serving only for the duration of 'hostilities'. Both could be ruthless with any officer they thought incompetent, however. More important was their concern with processes of positive bonding between higher commander and ordinary soldiers, of which their forward presence on the battlefield is a most important example. They contended that the effective control of the ebb and flow of a battle, particularly the capacity to put information from intelligence to immediate use on any vulnerability of the enemy to flanking and surprise movements (that is to the application of manoeuvre principles, an antidote to the attritional approach to warfare) also required that a commander should position himself close to the fighting troops - substantiated in their own forward presence.

Their insights into the relationship of motorization to their forces' fighting potentials lay in their understanding of the solutions it could offer to problems of integrating command and control. It permitted them to leave their headquarters to move rapidly around their commands, allowing their troops to feel that they knew 'their' commander and giving their subordinate commanders firm guidance and a clear lead. Most importantly and above all it lay in their understanding that improvements in the troop-carrying capabilities of mechanical transport helped them as they might have put it themselves,

paraphrasing (the quotation from) General Sir Frederick Maurice (in Chapter 4), to employ the special powers which they possessed in the best way. Today, we might wish to use more modern terminology, to say that they realized that the availability of mobility gave the commander of a force of limited offensive power a capacity to act strategically to out-manoeuve an enemy with an apparently decisive technological advantage and/or superiority in armaments.

Recently, many modern forces similarly affected by inferiority/superiority issues, such as the U.S. Marine Corps (which would expect to fight under numerical and environmental inferiority conditions) have incorporated manoeuvre principles into their doctrines. Doctrines of manoeuvre warfare aim at breaking the cohesion of an enemy's forces. According to the manoeuvre approach, achievement of strategic advantage, so that the enemy's ability to fight as an effective organized force is reduced, is a more essential aim than the imposition through superior force of such loss of personnel and equipment on the enemy that he can no longer fight. This relates directly to inferiority/superiority issues for the suggestion that in operations conducted according to manoeuvre principles results can be achieved disproportionate to the effort of force employed, provided only that such force is employed to best effect. O'Connor's 130-mile stab over physically hostile terrain, across the Italian communications, epitomized the application at the operational level of war of what we today call the deep thrust. If successful, an operation of this type, directed at the linkages within and between an enemy's combat, combat support and combat service support organizations, can decimate his fighting and support forces. But Montgomery's 25-mile manoeuvre past the front of enemy attack to take up a new position demonstrated that even a determined attempt at an armour/infantry deep thrust and encirclement can be parried under conditions which permit a commander to exploit the inherent capability of mixed mechanized forces for fast deployment. Thus, factors of time, space and scale may

be so compressed that vital strategic advantages can be obtained. The leading Slovakian manoeuvrist, Colonel Svec contends that the only constant dimension in war is relative time.<sup>3</sup> At the centre of the manoeuvre approach to warfare is the issue of relative time and the notion of getting inside the enemy's decision-making cycle or 'OODA Loop'. This term comes from the need to Observe, Orientate, Decide and Act more swiftly than one's opponent.

A related concept, expressed in modern military terminology as 'Command and Control Warfare (C2W)', involves the idea of defeating an enemy by using a German command style known as Auftragstaktik under the name of 'mission command' as a tool to decentralize command and control so as to put the enemy command system on 'the horns of dilemmas' in a decision-making cycle. At all levels of the command and control system decentralized by Auftragstaktik the successful prosecution of manoeuvre warfare requires risk-taking decision-makers who can recognize fleeting opportunities and act decisively upon them. High regard for Montgomery's calibre as a commander by his immediate superior, Brooke, and a similar appreciation of O'Connor's abilities by his ultimate superior, Wavell, meant that Brooke and Wavell were content to set the broad objectives, then allow Montgomery and O'Connor use their initiative to fulfil them in the way they thought best, based on their insights into the strategic uses of second order technology and armaments. We learn from Brooke's own account that when he visited Montgomery's headquarters on 27th May 1940 to outline the part he envisioned for Montgomery in his plan to save the B.E.F. Montgomery told him exactly how he was going to achieve his part of the plan. Similarly, even though Wavell had his own clear views on the strategy for 'Compass' he was soon prepared to let O'Connor follow his own plan. This is not to suggest that the British system of command then was generally decentralized, according to today's British Army's version of Auftragstaktik; it was often unwieldy, bureaucratic and inflexible, in other words poorly suited for carrying out manoeuvre warfare. (Several

historians, in fact, have suggested that later on Montgomery himself, as Commander, 21st Army Group, placed such stringent restrictions on O'Connor in his command of VIII Corps, 2nd Army, 21st Army Group, that O'Connor was unable to exploit the fleeting opportunity for a breakthrough during the 'Goodwood' battle in July 1944). The premise of the Wehrmacht's Auftragstaktik command style that commanders would know what action to take, without detailed orders, was vindicated during its successful practice of manoeuvre warfare in May 1940, particularly by Guderian's and Rommel's actions in establishing control of the west bank of the Meuse. The Italian Army in Libya, however, was characterised by an inflexible, authoritarian form of 'top-down' command, exercised in the case of senior officers from headquarters well to the rear, which severely circumscribed its ability to practice high mobility and manoeuvre.

Montgomery anticipated that the main German attack might be by armoured divisions and that the French and Belgian armies could crack. He was alarmed by the lack of contingency planning for a response to save the B.E.F., but alert to the probability that his division would have to execute a series of essentially defensive manoeuvres involving moving back from contact with the enemy. He trained 3rd Division accordingly, rehearsing his troops in their likely roles. Because of his emphasis on keeping options open (his principle of 'balance'), however, in his forward planning he also allowed for the possibility of engaging the enemy in mobile, delaying warfare if and when the enemy became vulnerable to 'Encounter Battle' tactics, in which the mobility provided by motor vehicles would be a vital factor, permitting the concentration of superior force at the right time and place.

Montgomery began to establish his greatness as a field commander during the British Army's Flanders Campaign of 1940. His conduct as a divisional commander merits study because of 3rd Division's night move in the middle of the northern break-through battle, on the night of 27th May, which saved II Corps and the B.E.F. from being outflanked.

This was a difficult and delicate operation involving the organization of a 'delaying' rearguard force to mask the division's withdrawal, the execution of an incremental reduction of a defended perimeter by dusk, under fire, a night flanking move by means of mechanical transport past the front of enemy attack and the occupation of a new position before dawn.

His conduct of his division also deserves consideration, however, because of his ability to preserve in fluid, mobile warfare the initiative in defence throughout the campaign. In a succession of brilliant defensive actions from the Dyle river to the Dunkirk perimeter Montgomery substantiated his concept of using infantry with a sufficiency of designated and divisional wheeled motorized transport to carry out a variety of tasks, with mechanized semi-armoured infantry in carriers playing the role of supporting armour. Acting together they operated as the nucleus of a successful mixed force without tanks, or at most with the occasional limited support of some light tanks from the divisional armoured mobile cavalry screen.

In the Western Desert of Egypt and Cyrenaica the westward extension of the operational area brought to an end not only the Italian occupation of Egypt but the near collapse of the Italians' hold on Libya and appeared to have opened the prospect of a virtually unimpeded advance towards Tripoli and their expulsion from North Africa. This extension was consequent on O'Connor developing his offensive operations from a large-scale raid initiated by a probe into a gap in the enemy defences, into a successful offensive involving long-range pursuit, deep thrust and envelopment.

Post-war writing and scholarship has devoted considerable attention to O'Connor's use of tanks and it is tempting to seek to reconcile the pattern of O'Connor's campaign, particularly his use of tanks, with Fuller's concept of 'strategic paralysis' - using the armour-protected mobility and firepower of tanks and their capacity for shock-action to demoralize, disorganize and destroy the enemy's command system - or making it fit with

Liddell Hart's concept of 'armoured mobility' and Strategy of Indirect Approach. The British Army's view in 1941 was that the success of O'Connor's campaign validated official pre-war concepts of the uses of tanks and the organization of armour, and the role of infantry and the way they should fight in the armoured battle. According to this 'Official' view, infantry tanks, with extra armour to compensate for their slow movement, had supported a succession of attacks by infantry on foot, but carried to where they had to assault the enemy in mechanical transport, while lightly armoured cruisers and light tanks had conducted a series of wide-ranging out-flanking movements to prevent the intervention of Italian armour, preceded and covered by armoured cars. However, O'Connor's use of tanks in the British Army's First Libyan Campaign was pragmatic and can best be typified as progressive in terms of the categories of attitudes to motorization developed in this dissertation. His manner of employing armour was simply the best way he could devise to use those armoured assets he had most effectively in conjunction with his conventional forces, to improve the efficiency of his force as a whole in the execution of his offensive. Although he did not relegate the tank to a role purely as a weapon of infantry support neither did he use tanks independently in an exploitation role to influence operations decisively.

In fact, a particularly interesting feature of his campaign was the use he made of a new type of offensive grouping: mixed mobile columns consisting of the dedicated motor infantry of the armoured divisions' Support Groups and conventional infantry with sufficient soft-skinned vehicles for movement (when captured vehicles were included), towed artillery and light armoured vehicles but no tanks. The artillery and armoured vehicles (carriers, armoured cars) provided fire-support and generally played the role of supporting armour. These columns proved effective under the prevailing conditions of an enemy tied to static defences. They kept the initiative for O'Connor, inflicted casualties and disruption

quite out of proportion to their actual, limited fighting power and, as at Beda Fomm, were able to move rapidly over great ranges to achieve operational strategic advantage initially without tanks - although tanks were decisive in relieving frontal and flank pressure on Combe force in the later stages of the battle, as the Italians sought to use their tanks to reopen their retreat route. The fact remains, however, that the tank-balance at Beda Fomm was overwhelmingly in the Italians' favour in numerical terms. The Italian armoured force also included large numbers of the Carro Assaulto Tipo M13/40 ("Tank, Type M13/40". M for Medio - Medium, the first number for the weight in tons, the second for the year of introduction), an adequate tank by the standards of 1940 and almost as good as the German PzKpfw III Ausf E (the usual abbreviation of Panzerkampfwagen which translates literally as "Armoured Fighting Vehicle". Ausf, short for Ausführung - Mark, with the different marks written as letters of the alphabet), the major weapon of the armoured divisions used in the conquest of France. Over a hundred of these Italian tanks were destroyed or captured at Beda Fomm.

In a war of manoeuvre, bold advances could be offset by well-managed retreats, and, as the operations selected show, can compensate for an enemy's technological primacy and achieve significant strategic advantage. Apart from the fact that O'Connor's manoeuvre operations were conducted as part of the offensive which developed from his large-scale raid and that Montgomery's manoeuvre was executed as part of an essentially defensive operational strategy of fighting withdrawal, there were other differences between the two cases and it is important to note them. Notwithstanding the facts that his division had been placed on half rations since 22nd May and that by now there was a serious shortage of artillery ammunition (both consequences of the fact that the B.E.F. was now cut off from its main Line of Communication), adequate transport contributed in no small measure to the success of Montgomery's manoeuvre. This adequacy was achieved by the inclusion of formation transport. Techniques of road

movement were carefully practised and military police and sappers were able to mark and keep open the route. O'Connor, however, had to impose a dual mandate on the mechanical transport at his disposal and use it not only for the speedy movement of infantry over great distances across difficult terrain so that they could keep in contact with the retreating enemy, but also to keep his whole force (including his armour) supplied and avoid problems of logistical breakdown. He was compelled, in other words, to cope with problems which Fuller, Liddell Hart, and other writers and practitioners promoting the primacy of tanks intended to participate in armoured, independent, mobile operations far and wide behind the enemy lines had largely tended to gloss over: problems of how the tanks got there and what was liable to happen on the way, that is, keeping tanks supplied with fuel and mechanically fit. This practical logistic problem was exacerbated by a shortage of the specialized equipment that enabled armoured forces to move economically in the desert such as tank-transporters: tractor-trailer combinations for the recovery and transport of tanks. (These were to remain in short supply in the British Army until the arrival of the American Diamond T tractor in 1941). The first interesting feature of O'Connor's solution to his logistic problems was his system of Field Supply Depots (F.S.D.s), which increased the number of supply dumps of all types of supplies along his axes of advance from the two established before 'Compass' to a total of some fourteen. (This system of maintenance was expanded henceforward for British and Commonwealth forces' desert operations, the F.S.D.s becoming Field Maintenance Centres (F.M.C.s)). Another feature was his organization of large numbers of captured medium and heavy lorries into new supply units.

### 6.3 Conclusion

Combined with their dynamic leadership, Montgomery's and O'Connor's insight that the policy to motorize the British Army's transport, which gave the '1937-1943' type of infantry battalion a capability for far-ranging mobility, had implications for operational strategy which enabled them to achieve strategic advantages with second order technology during the British Army's Flanders and First Libyan Campaigns of 1940-41, despite their enemies' technological primacy. This needed only to be understood and brought to an adequate level of efficiency, The analysis of Montgomery's and O'Connor's conduct of the operations selected from these campaigns suggests that an explanation of how they gained their advantages is that each was able to find a workable strategy to apply their limited offensive strength to best effect, through manoeuvre, employing their transport and communications to achieve the required mobility and operational strategic flexibility. Using the art of concentration and dispersion of forces as a means of achieving advantages disproportionate to their offensive strength by local superiority (and, in Montgomery's case, security by timely withdrawal) they were able to turn their relative technological weaknesses into relative strengths.

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#### ENDNOTES TO CHAPTER 6

1. Quoted in Desmond Graham, Keith Douglas 1920-1944: A Biography (Oxford: Oxford University Press, 1988), pp. 125-26.
2. Winston S. Churchill, The Second World War, Vol.2 (London: Folio, 2000), p.72.
3. Colonel P. Svec, "Tackling Numerical And Technological Superiority: Return To Manoeuvre Principles", in Selection of Essays written by students at the Royal College of Defence Studies, edited by Prof Jack Spence, RCDS, London, 1999, p.97.

## CHAPTER 7

### CONCLUSIONS

#### 7.1 Introduction

It has been widely held, and for obvious reasons, that the British Army's defeat in north-west Europe in the summer of 1940 at the hands of the German Army was hardly offset by its victories over the Italian Army in the winter of 1940-41. The reasons for the British Army's failures in the early years of the Second World War are many and complex and not always clear. Traditionally, they have been held to include inferior generalship and inadequate equipment. Underlying these problems, according to this view, was many superior officers' inability to fully comprehend the scope and meaning of armoured warfare. This resulted in the British Army's lack of a modern armoured force in 1940.

Yes, Britain, the country which had invented the tank went to war in 1939 without a single effective armoured division or a coherent doctrine of armoured warfare. Thus, the British Army was in a position of relative inferiority in first order technology in comparison to the German Army. But by the outbreak of the Second World War Britain possessed the only totally motorized army in the world, superior to any other in its depth and breadth. Every arm of service and support was equipped with means of transport and movement utilizing the internal combustion engine, with no dependence whatsoever on horses for transportation. This was completely unlike the German Army. The principal means of operational movement of most German soldiers in 1939 continued to be their feet. Furthermore, the German Army still used animals to draw

a large part of its logistics and artillery.

In any consideration of the way in which changes wrought by the military technology of those years changed the way in which warfare was to take place on land, one particular feature immediately becomes apparent. This is that the development of means of movement utilizing the internal combustion petrol engine increased the basic speed of land warfare. Fourie suggests that this change was significant not only for tactics but also for operational military strategy. It needed only to be understood and brought to an adequate level of efficiency (see Chapter 1). This research sought to test the performance of the British Army of 1940 in terms of that proposition, relying on an hypothesis that the leadership strengths of a commander, particularly his command skills and operational strategic insights, can enable strategic advantages to be gained with second order technology notwithstanding an enemy's technological superiority. What was found was that effective responses were possible with available combinations of technology in spite of the British Army's inferiority in first order technology, given conceptual superiority at that level of strategy at which concept and implementation meet and where the optimal has to be adjusted to the possible in the light of technical limitations, which is called Operations. Given, that is, able, forward thinking, progressive commanders. Richard O'Connor and Bernard Montgomery were two such commanders.

## 7.2 Summary and Conclusions

In the period between the wars some military thinkers and soldiers wanting to modernize the British Army had written of a strategic revolution the development of armoured warfare had wrought. In future major warfare, they contended, a large modern armoured force used in independent mobile operations could deliver decisive

victories without the casualty rates associated with attrition strategy in Europe in the previous world conflict. There was an expectation, therefore, among these writers and soldiers that armour should be developed so as to become the predominant arm of the army. Because of a variety of problems such as a lack of resources caused by the economic situation, governmental indifference to military affairs and the conservatism of superior officers, the 'official' view was that the British army should not concentrate on establishing the armoured force for which the 'modernists' hoped. Indeed Britain, where the tank had been invented and armoured warfare pioneered, lost the tank advantage it had had. Worse still, it fell behind Russia, France and Germany where armour capable of deep strategic penetration was developed. However, for various reasons, including a desire to improve the mobility of the traditional arms and to increase their logistic efficiency, the decision was taken to motorize the entire British Army to include each arm of service. Thus the British Army went to war in 1939 with the capability of moving by motor vehicle that gave it a notional capacity to compensate for its shortcomings in armour. The problem then, was to consider the relationship of various orders of technology to successful prosecution of military operations and to consider whether reliance on second order technology would have been feasible or whether it inevitably spelt disaster as in Poland. Evidence from the British Army's Flanders and First Libyan Campaigns of 1940-41 suggested that it was possible for commanders to be successful with second order technology against enemies with apparently decisive first order technological advantages. The research problem could thus be boiled down to two questions. Does technological primacy in the hands of an enemy make defeat inevitable or is it possible for a commander to use second order technology to overcome the apparent consequences of being deficient in armaments? If so, what conditions would enable the commander to gain advantage over his technologically superior enemy?

At the beginning of this dissertation a lack of any

official British consideration of a strategic role at the level of major warfare for mechanical transport additional or alternative to its uses in the movement of men, guns and supplies was identified. Indeed, such theory as there was clearly supported the view that the lack of an armoured force comparable to that of Germany would place the British Army in a dangerous and critical position in the event of war. It was, therefore, considered necessary to take this study further, to review the military professional writings of the inter-war period to determine what the literature revealed of theoretical concepts for the strategic employment of second order technology and to compare it to the approaches of practitioners. To provide a theoretical basis for the examination of the data used in this research the writings were analysed in terms of writers' concepts of notional uses of motorized transport for the strategic movement of forces in the manner that certain commanders in military history have used the railways. Finally, the various approaches were synthesized in terms of three broad categories so that one could see the different writers' approaches to establishing the strategic employment of motorized transport. British military thought between the wars was apparently dominated by the British military commentators, J.F.C. Fuller and B.H. Liddell Hart, but the debate on armour in Britain was paralleled in Russia, France and Germany. There important contenders for the innovation of modern tank forces were Marshal Mikail Tuchachevsky, General Charles deGaulle and General Heinz Guderian. Few of these 'innovators' considered that there could be any satisfactory substitute for the tank and a large modern tank force. Another category, 'the conservatives', included many of Britain's senior soldiers. They saw no value in the concept of independent armoured formations. They expected also that the role of mechanical transport would remain primarily the movement and sustenance of operating forces in the execution of attrition strategy. A third category, 'the progressives', was distinguished. They differed from the innovators in that they held the tank to be only an

important weapon rather than the decisive one. While the conservatives saw mechanical transport simply in the logistic sense without realising that it had the potential for strategic movement of forces, progressives - and Montgomery and O'Connor were two progressive practitioners of great importance - realized that motorized transportation had a deeper strategic significance. They understood that the availability of motorized mobility gave them not just the capacity to carry troops and supplies but the capability to act strategically, that is, it gave operational strategic flexibility.

The British Army did not respond to the innovators' promotion of the primacy of the tank and all that that implied. A second step in this research was to establish the extent to which the Army motorized. This required an interpretive account and analysis of participants' experiences of field exercises and experiment to replace horses by motor vehicles as means of transportation and movement and to determine the relationship of various orders of automotive technology to success in war. In the late 1920s the British Army set up the world's first mechanized force for independent operations. This was not an independent armoured force. It was a mixed force composed not only of tanks, but also of motorized infantry and artillery, with air support, to test infantry-artillery-armour co-operation. This force lasted for just two years, until it was concluded that the motorized elements had tended to impede operations by armoured elements and that the correct use of armour should be 'all armoured' formations to which other arms and units could be attached as and when required, if their mobility was improved. Complete motorization could be a solution to problems of mobility in three functional areas: the transportation of men and weapons to the battlefield, the transportation of men and weapons on the battlefield and the transportation of supplies. A description of interaction among contenders both within and outside the official policy-making apparatus and the influences of the broad categories of attitudes to motorization previously identified explains the British

Army's failure to concentrate on establishing a modern armoured force while the opportunity was still within reach. The higher direction of the Army embodied the resistance of a conservative military 'Establishment' to the theory of armoured warfare held by the innovators. Dominant personalities in the War Office argued that reform and reorganization directed toward the creation of a motorized Army rather than of an armoured force was what was required. It was desirable therefore, that the mobility of every arm of service be improved through general motorization and by a limited mechanization, rather than to focus the application of automotive technology on establishing a mechanized, armoured force composed almost entirely of armoured fighting vehicles as the innovators wished. Thus, the British Army motorized to improve infantry mobility, to bring artillery into action closer to the centre of the battle, and to improve logistical efficiency. Finally, how contenders viewed developments was considered to evaluate what actually happened in the perspective of those who were actually involved. This is worthwhile because, if decisions are examined from this perspective, they can assume a degree of logic which perhaps they lack in retrospect. The facts of what actually happened, judged by the concepts of the champions of armoured war, tell a sorry tale even though the first British armoured divisions of the late 1930s were heavily tank-orientated. However, contenders who adhered to an attrition strategy were able to take a considerably more sanguine view of developments. Though this may have been ill-founded because of a failure to perceive that the army might need not only mobility but also the particular combination of mobility and striking power associated with armoured forces capable of deep strategic penetration, it can be concluded that the capability of moving by vehicle gave the British infantry battalion of 1939-40 a workable capacity for mobility which was to have significant operational strategic effects in the hands of certain commanders.

The next step in the research was to assess the relevance of Montgomery's and O'Connor's earlier military

experiences for the leadership strengths, particularly the command skills and operational strategic insights, which they would demonstrate in 1940. In the First World War both had experienced the tendency of the growth of the mass armies of the late 19th and early 20th centuries to make personal leadership by generals increasingly difficult. This, they, believed, had negatively affected the British Army's efficiency in the First World War. Further, they believed that this absence of forward presence by senior commanders had produced a military situation in which command and control had tended to become separated. Montgomery's and O'Connor's 'principles of war' were not radical, revolutionary or unorthodox. They were rooted in the experience of the British Army, expressed in Field Service Regulations, as to what was considered essential to success in war. Their styles of leadership and command, however, were direct, personal and limited-heroic for the purposes of reintegrating command with control and of establishing a common bond with their troops.

An available technology of warfare is most effective when employed by commanders who understand its strengths and limitations. Chapter 5 was a substantial development of the theme of how O'Connor's and Montgomery's initiative and thoughtful use of the second order armaments at their disposal resulted in one case in the destruction of a major Axis force and in the other in the deliverance of significant British forces from equally sure destruction. The two strokes of intelligent operational art described in this chapter permitted the two commanders not only to maximize the effectiveness of scarce armoured and semi-armoured assets but to bring to an adequate level of efficiency in mobile operations motorized infantry as the nucleus of a mixed force in the absence of a viable armoured force. Both the applications of motorization described in this chapter demonstrate that it is possible for a commander to use mainly second order technology to achieve the capacity for success in operations against an enemy which has seemingly decisive technological advantages. Both, in other words, provided evidence that

satisfied the demands of the hypothesis for this study and satisfied the requirements of subproblem one.

In operations conducted according to manoeuvre principles results can be achieved disproportionate to the effort of force employed, provided only that such force is employed to best effect. The analysis in Chapter 6 of Montgomery's and O'Connor's conduct of these operations suggest that an explanation of the manner in which they gained their advantages is that each was able to find a workable strategy to apply their limited offensive strength to best effect, through manoeuvre, using their transport and communications to achieve the required mobility and operational strategic flexibility. This addressed the requirements of subproblem two.

In the hands of progressive commanders the motorization of the British Army to 1940 gave the British 1937-43 type of infantry battalion the capability to move rapidly over great ranges to achieve operational strategic advantage. But this was not armoured mobility. Apart from the lightly armoured 'Bren carrier', which had been designed as a weapons carrier, not a personnel carrier, British infantry had no protection or firepower when mounted. At the heart of this problem lay the vulnerability of men in unarmoured vehicles to all forms of fire. As the British armoured division moved away from tank-heaviness towards a balance of fewer tanks and more motorized infantry, the lorried infantry, or Motor Brigade ensued. These were based on standard battalions, carried in a new type of vehicle - soft-skinned and not armoured. The troop-carrying vehicle (T.C.V.) - usually a Bedford 3-ton QL with troop-carrying body - was a large lorry fitted with seats, capable of carrying a platoon of infantry, 36 men, almost anywhere that a tank could go. This was a contrast to the concept of mechanized infantry in their own bullet-proof cross-country vehicles. The lack of a really suitable vehicle in which the infantry could move to where they had to attack the enemy on their feet (and which could provide suppressive fire while the infantry dismounted to continue the assault on foot) was perhaps the most significant failure of the

British Army to respond to the operational strategic and tactical challenges set up by the creation of a mechanized army in place of an armoured force. That is, it was a failure to provide safe transportation of men and weapons to and over the fire-swept battlefield. This problem was only partly rectified with the gradual availability of the American 'M' series of armoured half-tracks (several models of which could be fitted with a ring-mounted machine gun above the cab). It was noted in Chapter 2 that O'Connor was responsible for one of the most important occasions in the Second World War when the British Army improvised armoured personnel carriers on tank hulls to deal with a tactical situation. Before Operation 'Goodwood' (July 1944) began he had anticipated the need for the infantry to keep up with the tanks and at the same time be protected from enemy fire which made movement by lorry unsatisfactory. This shows that, of the two principal actors in this dissertation, it was O'Connor who came to more clearly realise the limitations of motorized infantry on the later battlefields of the Second World War. In 1944, when O'Connor was trying to get self-propelled gun-carriers turned over to the infantry for use as armoured personnel carriers, Montgomery was planning Operation 'Market Garden', in which the mounts would be jeeps and gliders.

What emerges from this study? Ultimately, it is not claimed the research has conclusively proved an hypothesis which was chosen more for the purposes of guiding research than to be falsified or proven. War is too much of a human activity to arrive at distinctly final conclusions about its conduct.

The research has shown that advantage in warfare does not merely rely on numbers or on superior or inferior armaments. The two cases described have indicated that success in warfare, whether the achievement of victory or the avoidance of defeat, may have to rely as much - if not more - on the personalities of the commanders. For it still requires thought to apply advanced equipment. Even the highly armoured and mechanized Panzerwaffe of the German Wehrmacht was initially at a disadvantage not

only because there were more tanks available in the Anglo-French forces in 1940 but also because not all of their generals had the insight possessed by such as Guderian, Manstein or Rommel. It also took the Manstein conception of the 'Sichelschnitt' manoeuvre and the initiative and drive of generals such as Rommel to give the Wehrmacht the edge.

The two cases described involved two kindred personalities who through enduring similar experiences of war were able to understand the need for avoiding simple adherence to prescribed military practice in favour of a thoughtful approach. Montgomery and O'Connor were dedicated to being true professionals in spirit as well as in name, who devoted themselves to self-development, to gaining insight into their experiences and by studying the theory and practice of war. They accordingly grew to become mature modernizing commanders whose imaginative approaches enabled them to respond to the disadvantages imposed upon the British Army by post-war economic depression, by the pacifist mood of the British public and politicians and the conservatism and resultant incapacity of the higher echelons of British Army command. Thus they were able to take advantage of what they had - simple motorization - and to adapt it away from stereotyped concepts of logistical employment which they replaced with beneficial operational strategic utilization. Their characters would probably have developed in the same way had they commanded forces fully modernized, armoured and mechanized. The simple conclusion may thus be that, while a variety of technologies are important in the waging of war so are the personalities of commanders, therefore technological superiority or inferiority alone do not make the outcome of war inevitable.

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