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Fighting in the Fog of War
Decision-Making under Extreme Uncertainty in the Waterloo Campaign

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I. Introduction

The Battle of Waterloo, fought on 18 June 1815, is widely regarded as one of the most important battles in military history. It terminated the protracted war, which had lasted almost unbroken for nearly a quarter-century (1792–1815), between the long-established European monarchies and the new French Republic and Empire. It marked the final defeat of the Emperor Napoleon, who was the dominant political figure and the most outstanding general of his epoch, and the memories and myths of Waterloo cast a long shadow over the four decades of relative peace in Europe that followed.

For the United Kingdom, the allied victory at Waterloo was particularly significant. It was the triumphant conclusion of a long series of wars with France since 1689 (the so-called Second Hundred Years’ War) in which France had aspired to achieve permanent mastery of Europe and to establish a global colonial empire, and had repeatedly threatened to invade the British Isles. After Waterloo these French ambitions had been, in effect, blocked (though the threat of invasion resurfaced briefly in the 1860s) and Britain enjoyed a century of security – characterised by the multipolar balance of power in Europe and the unchallenged dominance of the Royal Navy at sea – until a new threat from Imperial Germany arose in the late nineteenth century.

Waterloo was not the largest battle of the Napoleonic Wars in terms of the total number of troops involved, or the number of British troops engaged; indeed, more British troops fought in the later battles of the Peninsular War (1807–14). However, Waterloo has the grisly distinction of producing a longer British casualty list than any other battle in the three centuries between the adoption of gunpowder and the outbreak of the First World War. Furthermore, the British contingent included several elite units, and many of the casualties were aristocrats whose bereaved relatives and comrades hastened to commission flamboyant memorials and iconic paintings which cemented the Battle of Waterloo into British public consciousness.

Although the allied victory at Waterloo secured the dominant position of the British Empire, it stifled the development of the British Army for two generations. Waterloo appeared to prove that the army’s policies of:

- recruiting its rank and file (mostly) from the lowest classes of society
- enforcing discipline by flogging
- promoting officers by purchase rather than merit, and
- relying on a curiously fragmented administration in London

did indeed constitute a winning formula. It certainly had created a military force which was unshakably stubborn in defence and boundlessly courageous in attack. Under inspired commanders like the Duke of Wellington, it was
consistently victorious. Accordingly, the army saw no reason for significant reform until it was found wanting (in everything but courage) in the Crimean War. After that victorious but unnecessarily costly war in the mid-nineteenth century, investigations stimulated a multitude of overdue reforms in the decades which followed.

The Extreme Uncertainty of Napoleonic Warfare

The 1815 Waterloo campaign has already been immortalised in a multitude of books, paintings and films. Many historians have presented meticulous narratives of the campaign, illustrated by detailed maps showing the locations and strengths of the various contingents of troops, and have used that comprehensive information to criticise the decisions of rival commanders. However, this approach is unrealistic, and fails to recognise that in Napoleonic warfare the information available to guide a commander’s decisions was actually very limited. That retrospective approach often fails to acknowledge that the commanders’ decisions were generally made under considerable physical and psychological stress. In such situations it was almost inevitable that some of these decisions were flawed.

In the Napoleonic period, a commander’s knowledge of the position of detachments remote from his own main army depended on the arrival of mounted messengers with dispatches from those detachments, and thus was always some hours out of date. His knowledge of the enemy, meanwhile, was distilled from the sporadic reports of spies and scouts who had observed the position and movement of some enemy units and these reports were similarly belated, always incomplete and occasionally mistaken. Even when the main armies of Napoleon and Wellington came face to face at Waterloo on the morning of 18 June 1815, Wellington could see that most of the French Army of the North was facing his position and could infer from the visible presence of Napoleon that the French Imperial Guard – an elite corps which always accompanied Napoleon on his campaigns – was also on the battlefield. Today, it is known that two French army corps were actually with Marshal Grouchy at Gembloux, starting their march towards Wavre. However, Wellington had not even approximate knowledge of the strength or current location of that detachment; he might have surmised that some French units would be pursuing the Prussians following the latter’s defeat at


2. A commander’s uncertainty about the positions of enemy troops, or even of his own, is covered in Michael Howard’s _Clausewitz: A Very Short Introduction_ (Oxford: Oxford University Press, 1983), p. 26. Even in the twentieth century, a commander ‘must be able to see through the veil in which an enemy’s future actions are always wrapped’ as stated in Enrich von Manstein’s _Lost Victories_ (London: Collins, 1958), p. 409.
the Battle of Ligny two days earlier, but he could not have known how many. In the preceding three days of the campaign, Wellington’s knowledge of the positions of the component units of the French army was even more vague and fragmentary than on the morning of 18 June, when most of it was within his field of view.

Accordingly, this Occasional Paper focuses attention on the information which was available to the three army commanders – Napoleon, Wellington and Field Marshal Blücher of the Prussian army – at several critical points in the Waterloo campaign, and on the decisions which they then made, based on that information and on their own judgement. It therefore presents only as much detail on the military operations as is necessary to provide a context for those key decisions.

Retrospective analysis of the decisions made by any commander in history should not be regarded as inappropriate and unfair criticism, but rather as a way to improved understanding which should enable his successors to do better. The very first sentence in Colonel Chesney’s 1868 study of the Waterloo campaign notes that ‘Military history, if it aspires to be anything higher than the bare record of warlike transactions, must be accompanied by intelligent criticism’. The commanders’ decisions in the Waterloo campaign offer lessons to modern political leaders and soldiers facing similar challenges. Indeed, despite the many intervening changes in the technology of warfare and particularly in those reconnaissance, surveillance and communications capabilities which have lately been enabled by digital technology, they remain highly relevant today.

**Decision-Making**

All military and naval commanders must plan their manoeuvres with only incomplete and uncertain knowledge of their enemy’s strength, position and intentions. An inspired commander can combine scraps of intelligence information (some true and some false) with his own judgement of the enemy commander’s strategic situation and personality to derive a credible assessment of the enemy’s intentions, and he can then plan his own manoeuvres on that basis. A less inspired commander, when faced with scanty or contradictory intelligence information, can be reduced to indecisive paralysis or to a spate of contradictory orders which exhaust and demoralise his troops. It follows that good intelligence about the enemy is extremely important, and can have a decisive effect on the outcome of a campaign.

In any campaign, the rival commanders must make their decisions simultaneously rather than sequentially, as happens in chess and in many war games. If each commander has several options, the combination of

their options yields a large number of potential outcomes. A confident commander tends to assume that his judgement of the enemy’s intention is correct, and selects his own manoeuvres accordingly. A more judicious commander acknowledges that the enemy may act in unexpected ways and therefore selects his own manoeuvres to take account of that uncertainty, thus maximising his chances of success in the campaign.

Despite this paper’s forensic focus on the decisions of the rival commanders, it must be acknowledged that victory in military operations ultimately depends on the bravery and combat skills of the soldiers involved. Furthermore, it must never be forgotten that in this period (as in all periods of military history) warfare inflicted a multitude of gruesome deaths and excruciating injuries on the combatants, and a humane general should recognise the consequences of his decisions. No military history should pretend that strategy and tactics are merely another purely intellectual problem, and thus fail to admit the human costs of resolving political disputes by resort to violence.

Earlier Studies of Waterloo

The narrative of the Waterloo campaign presented below has been built on the research of the several historians cited in the bibliography, and the author is duly appreciative of their diligence, knowledge and literary eloquence which have made the Waterloo campaign one of the best documented in military history.

The Duke of Wellington himself was notoriously hostile to any attempt to write a comprehensive history of the Battle of Waterloo. He judged that it would be as difficult to write the history of a battle as to write the history of a ball. Both events feature multiple, simultaneous, overt and covert interactions between the participants, and any individual’s observations of these interactions must inevitably be limited and partial. Wellington may have been psychologically scarred by the mental stresses of four days of campaigning against the most famous general in the world, and by the deaths and injuries suffered by many personal friends. He was doubtless immensely relieved and gratified to have won a decisive victory, although it had been ‘a damned close run thing’, and he may have seen no valid reason to ignite nugatory controversy by revisiting the past. Five years earlier, in

4. Situations where the outcome depends on the concurrent decisions of several participants have been studied in the extensive literature on game theory.

5. Many commanders who have only limited information rely on instinctive assumptions based on their previous experiences (as do most people in their day-to-day lives). However, it is more prudent (albeit more demanding) to adopt deductive reasoning which admits that such assumptions may be mistaken, and that, for example, black swans may exist. The impact of the highly improbable is discussed by Nicholas Taleb in *The Black Swan* (London: Allen Lane, 2007).
1810, Wellington had written disapprovingly that after each major battle and minor incident affecting his army in the Iberian Peninsula:⁶

Every man that can write, and has a friend who can read, sits down to write his account of what he does not know and his comments on what he does not understand, and these [accounts and comments] are diligently circulated by the idle and malicious of whom there are plenty in all armies.

In the years after the Battle of Waterloo, the diligent Captain William Siborne, despite official discouragement, interviewed many of the survivors and assembled a jigsaw puzzle of memories into a coherent account of the 1815 campaign and the culminating battle. His 1844 book – the result of these interviews – was inevitably an Anglocentric history because Siborne had less input from Netherlands and German officers, and because the French were (understandably) unhelpful.

Siborne’s history has provided the foundation for a multitude of English-language books about the Waterloo campaign, most of which are straightforward accounts of what appears to have happened. Some have been strongly influenced by Napoleon’s reminiscences on St Helena, in which he blamed marshals Ney and Grouchy for the failure of his campaign. Some of this multitude of histories focus on the individual experiences and suffering of the soldiers, and describe examples of outstanding bravery or endurance by particular units; such examples continue to inspire their successors, and various British regiments still cherish memories of Minden, Albuera and the Dargai Heights. Other histories focus on the individual commanders, and trace the education and experiences which shaped their abilities to command victorious armies (but this approach often veers into indiscriminate adulation). Yet others describe the functioning and effectiveness of the weapon systems employed in the battle, and how the interactions between these weapon systems determined battle tactics. All these approaches are valid and useful, but it is at least equally important to study the decision-making of the rival commanders, based on the information then available to them, and to consider how their decisions might have been improved.

In parallel to Siborne’s personal and unofficial efforts, the Prussian General Staff adopted a characteristically professional approach and undertook a systematic analysis of the campaign to identify the lessons which could be learned from the errors and omissions of the various commanders. The study was led by Carl von Clausewitz, who had served through the campaign as chief of staff of one of the Prussian army corps. This Prussian approach to deriving lessons from past military operations, allied to the ruthless political genius of Bismarck, yielded a succession of victories for Prussia in successive

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wars in the middle of the nineteenth century which, by 1871, had established Prussian supremacy within the Second German Reich.

Some historians, such as William Seymour,\(^7\) have presented the options available to the rival commanders at several key points in the Battle of Waterloo itself and in each case have reviewed the advantages and disadvantages of the different options before identifying the one which was actually chosen. Such reviews are instructive but, during a battle, a commander can generally see the direction and scope of enemy attacks and can react accordingly. On the morning of the Battle of Waterloo, Wellington told his second-in-command that he had no plan other than to counter Napoleon’s inevitable attack, since the French would have to attack in order to win the campaign. During the battle, Wellington’s tactical decision-making was indeed very difficult, involving complex issues of threat evaluation and resource allocation and having to be made urgently despite many distractions and dangers, but at least he had most of the information which he needed.

**This Study of the Waterloo Campaign**

Rather than focus solely on the climactic Battle of Waterloo itself, this Occasional Paper analyses the decisions of the rival commanders over all four crucial days of the campaign (15–18 June inclusive). In the first three days, the commanders had only incomplete and often obsolete information about the position of their own and of enemy units, and hence their decision-making was even more complex and difficult than during the climactic battle itself.

This study:

- Considers all the important decisions made during the four-day campaign and the information available to support each of these
- Provides sketch maps illustrating the divergent perceptions of the opposing commanders about the positions of their own and of enemy troops
- Applies a modern method of decision analysis to demonstrate how that method might have enabled the commanders to make better decisions
- Draws from the Waterloo campaign several lessons which remain relevant for modern political leaders and military commanders.

First, the study will review the political background of the Waterloo campaign to provide the context within which the opposing commanders had to make strategic decisions. It will then describe the principal features of the theatre of operations, and the strength and composition of each of the opposing

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armies. The narrative of the 1815 Waterloo campaign which follows will review and assess the critical strategic decisions. These include:

- Napoleon’s decision to try to re-establish his dynasty by a surprise invasion of modern-day Belgium (then part of the newly created United Kingdom of the Netherlands) rather than by fighting a defensive campaign in northeastern France
- Blücher’s decision to concentrate his army at Sombreffe, near the forward edge of the army’s cantonments, and to accept battle there
- Wellington’s decision to delay, throughout most of the first day of the campaign (15 June), issuing orders for his army to concentrate closer to Nivelles and Quatre Bras, and thus to place it within supporting distance of the Prussians at Sombreffe
- Lieutenant General Baron de Perponcher’s decision on the same day to oppose the French advance on Quatre Bras using part of his Netherlands infantry division
- **Napoleon’s failure on the morning of 16 June to concentrate most of his army at Ligny**
- Lieutenant General Count Gneisenau’s decision to direct the Prussian troops, retreating from defeat at Ligny, to rally at Wavre
- **Napoleon’s decision to detach Marshal Grouchy, with about one-third of the French army, to pursue the Prussians towards Gembloux**
- Wellington’s decision on the morning of 18 June to deploy a large detachment of his army at Hal, thus diminishing the forces available to defend his main position at Waterloo
- Blücher’s choice of General Count von Bülow’s corps to lead the Prussian advance on Waterloo
- Napoleon’s failure, early on 18 June, to counter adequately the threat of a Prussian advance against his right flank at Waterloo
- Napoleon’s (possibly premature) allocation of an army corps to oppose the advance of the Prussian troops sighted at Chapelle St Lambert
- Napoleon’s decision, after the repulse of Général d’Erlon’s attack, to continue attacking at Waterloo
- Napoleon’s decision not to reinforce Ney’s attack on the centre of Wellington’s army immediately after the French capture of La Haye Sainte.

The study identifies the information available to the commanders when they made such decisions, and discusses how its limitations allowed significant divergences between the real situation and the rival commanders’ perceptions of it. Throughout the campaign, each commander had to appreciate that the outcome of his decisions would depend largely on concurrent decisions being made by other senior and even junior officers. Similar challenging problems arise in many competitive activities (both military and civilian)
but the complex Waterloo campaign provides an attractive case study of decision-making under extreme uncertainty.

Some of the above decisions demanded relatively straightforward judgments on which of two or more alternative options were most likely to achieve the desired objective. In two other, more complex decisions (highlighted in bold in the list above), this study uses a modern method of quasi-quantitative decision analysis, using payoff and regret matrices (as described in detail in Appendix D), to show how these modern principles might have helped the relevant commander (Napoleon in both cases) to make more-successful decisions.\(^8\) These two ‘decision analysis’ sections in Chapters IV and V constitute the core of the study. The same principles could have been helpful in many of the other decisions listed above, in the same way that they can be helpful today in resolving modern problems of military strategy and civilian policy-making.

The penultimate section of the paper, Chapter VIII, notes that the Waterloo campaign illustrates many of the particular principles of land warfare in the eighteenth and nineteenth centuries. It also highlights several enduring lessons from the campaign which remain relevant for modern political leaders and military commanders.

It is evident that all decision-making is difficult, even when most of the relevant information is available and it is only necessary to balance the multidimensional advantages and disadvantages of different options. For the commanders of Napoleonic armies, however, decision-making was extremely difficult because it had to be done on the basis of the very limited information available and when the commanders were subject to discomfort, fatigue or danger (or all three), so it is neither surprising nor discreditable that such commanders did not always select the optimal strategy and tactics. The comments and criticisms included in this study of the Waterloo campaign are not, therefore, intended to denigrate the commanders involved, but rather to illuminate the circumstances in which key decisions had to be made and to identify the causes of poor decision-making. Clever people learn from their own mistakes but even-cleverer people learn from the mistakes of others. Ideally, twenty-first century military and political leaders will be able to draw useful lessons from this study of events 200 years ago.

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8. It has been argued by Martin van Creveld, *The Age of Airpower* (New York, NY: Perseus Books, 2011), p. 89 that military decision-making at the highest level is extremely difficult and fundamentally unscientific. However, this paper argues that a modern, structured approach can clarify the commander’s problem and hence facilitate his decision process.
Caveats
All historical accounts of warfare in the age of Napoleon are based on the reports and memoirs of the officers involved. The scope of these officers’ observations was inevitably limited, their memories of experiences that caused great physical and psychological stresses were sometimes (and understandably) unreliable, and the need to protect their own reputations drove some reports to be written in the ‘past exonerative’. In the days before embedded journalists and mobile telephones, it was not difficult for unsuccessful commanders to disguise the extent of a defeat and to misrepresent the reasons which explain its occurrence. It is notorious that the after-action reports (and later the memoirs) of some military officers involve selective recall, wishful thinking, dramatic licence, special pleading, political spin and even downright fabrication. Napoleon’s own Bulletins were notoriously fictional, and some military historians claim that there are ‘lies, damned lies and regimental histories’.9 Memoirs of the American Civil War, for example, where many of the generals were actually politicians in uniform rather than professional soldiers, have generated a particularly rich collection of misrepresentations. Any ‘fact’ in a military history should therefore be assessed in terms of several criteria:

- Who said or wrote it first?
- How did he know?
- Might he have had any ulterior motives?
- Can the fact be independently corroborated?

Any analysis of the Waterloo campaign must accept that there are many apparent discrepancies in the military memoirs of the campaign, some of which were written long after the event when memories were distorted by the passage of time. It is not surprising that such discrepancies have generated a variety of controversies (such as recent accusations by the historian Peter Hofschroer, made in his 1998 book,10 that Wellington deliberately misled his Prussian allies on 16 June 1815), but this paper does not attempt an exhaustive assessment of any of them.

II. Prelude to the Waterloo Campaign

The Battle of Waterloo was fought in the aftermath of a long period of disruptive warfare in Europe during which Napoleon’s victorious campaigns had enabled him to redraw national frontiers at will. In 1805, the then British prime minister, William Pitt the Younger, had said: ‘Roll up that map [of Europe], it will not be wanted these ten years’; and the events that unfolded over the following decade almost proved him right. In 1814, after the defeat of the French armies and the abdication and exile of Napoleon, the map had been unrolled again and the victorious nations of the Sixth Coalition – Britain, Austria, Prussia and Russia – had met in conference in Vienna to try to reconstruct a stable and peaceful Europe from the chaos.

The 1813–14 campaigns and the subsequent Congress of Vienna revealed that the objectives of the allied nations in the Sixth Coalition diverged widely. They had different views on the re-allocation of territory in Poland, Italy and the Netherlands, and on the future government of France. Britain stipulated that the Scheldt estuary (in modern-day Belgium) should be under the control of an enlarged Kingdom of the Netherlands rather than part of post-war France, and that the Bourbon monarchy should be restored in France. At the Congress, Britain’s wealth enabled its representatives to subsidise governments and to bribe influential individuals in order to achieve its objectives. By March 1815, when Napoleon returned from exile in Elba, the revelation of numerous duplicitous intrigues at the ongoing Congress had created much mutual suspicion and antagonism.

In particular, Prussia’s aspiration to annex several of the smaller German states was opposed by the British government, which was represented at the Congress by the Duke of Wellington between February 1815 and Napoleon’s return to France in March. It is therefore hardly surprising that, during the Waterloo campaign, some Prussian officers were hostile to Wellington and did not trust him.

In addition, in the 1815 Waterloo campaign the two allied commanders wanted to defeat Napoleon but both of them had other objectives. Wellington had instructions from his government to ensure the security of Antwerp and the neighbouring Channel ports. General Gneisenau, the chief of staff (and effective commander) of Field Marshal Blücher’s army, had been ordered to ‘act with prudence and consider the future of Europe’¹ – in other words, to safeguard the Prussian army; King Friedrich Wilhelm III of Prussia retained the Prussian Guard and the Prussian heavy cavalry near Berlin to protect his interests in central Europe. It is, of course, not unusual for nations in an alliance to have objectives which diverge as well as some which overlap,

and to have different views on how their objectives can best be attained. The decisions of commanders in historical and in modern times must take account of such inter-allied disagreements.

**Napoleon's Return from Elba**

On 1 March 1815, Napoleon returned to France from exile in Elba, drawn by rumours of French discontent under the reign of the restored King Louis XVIII and impelled by the latter’s rash decision to withhold payment of Napoleon’s agreed pension of 2 million francs per annum. Napoleon’s hope of re-establishing himself and his descendants as emperors of the French relied on two enormous gambles:

- That his return would be welcomed by a large majority of the French army and by most of the population
- That he would be able to deter or defeat any hostile coalition of the allied powers which had conquered him in 1814.

The first gamble succeeded spectacularly well. The Bourbon king and his aristocratic followers, who had been restored to power in 1814 after arriving ‘in the baggage train of the allied armies’, had displayed a reactionary tactlessness which alienated French public opinion (not least by seeking to close cafes on Sundays). The peasants feared the loss of lands which they had obtained during the Revolution from the sequestration of feudal and church estates. The army was disenchanted by large-scale demobilisation and by the appointment of aristocratic commanders without previous experience (sentries continued, against orders, to present arms to veterans wearing the Napoleonic Legion of Honour) and its soldiers were not prepared to fight for Louis XVIII. Napoleon’s reputation – and his raw courage in facing alone the levelled muskets of the French 5th Infantry Regiment when it opposed the march of the small Imperial column near Grenoble on 7 March 1815 – brought him to power in Paris within three weeks of his landing near Antibes, without a shot fired.

But his triumph was not entirely complete and French public opinion remained divided. There were short-lived royalist risings against Napoleon in several provinces in the south and west, and later a sustained insurrection involving some 20,000 citizens in La Vendée. Furthermore, many of Napoleon’s supporters wanted a liberal constitution rather than a return to his former absolute power. In the army, meanwhile, there was mistrust between those officers who had temporarily served the restored monarchy and the others who had never compromised their loyalty to the emperor. The desertion of Lieutenant General Bourmont, commander of the French army’s 14th Infantry Division, in the opening hours of the Waterloo campaign was symptomatic of ambivalent loyalties, even in the high command. Of the eighteen surviving marshals of France on active service, eight remained loyal
to Louis XVIII and left France in the wake of his flight to Ghent; some of the remainder were ill or politically unreliable, leaving only five plus the newly appointed Marshal Grouchy to serve Napoleon in 1815. Only three marshals (Grouchy, Ney and Soult) participated in the Waterloo campaign.

Napoleon hoped that his return would be tolerated by at least some of the other European powers (then meeting at the Congress of Vienna to establish a new order for Europe’s frontiers after the disruption of recent wars) – but this hope was disappointed almost immediately. On 7 March a report of his escape from Elba reached Vienna, and the great powers immediately issued orders for mobilisation of their armies. As soon as authoritative news of his return to France arrived six days later, on 13 March, eight nations signed a declaration proclaiming Napoleon to be an outlaw. This declaration preceded Napoleon’s (possibly sincere) attempt to negotiate with the allies immediately after he arrived in Paris on 20 March, and thus aborted his hope of achieving a peaceful restoration. Later, on 25 March, the four major powers (Austria, Britain, Prussia and Russia) pledged 600,000 troops to destroy him once and for all. Napoleon’s new liberal constitution for France, the ‘Acte Additionel’, which was promulgated on 22 April and endorsed by the French people in a plebiscite, attracted considerable sympathy in London, but by then the allies were committed to military action.

**Preparing for War**

After his arrival in Paris in late March, Napoleon took control of the Bourbon army which had served Louis XVIII so poorly. It had 224,000 on its muster rolls but less than half of those were ready for service in the field. This number was clearly inadequate to resist the almost 1 million enemy troops being assembled by the four great powers and their smaller allies, which would soon be gathering on the frontiers of France. Napoleon’s first task was to expand the army by recalling soldiers on leave, rounding up deserters, enlisting French and foreign volunteers, and drafting sailors into the army. He also called up the conscripts from the class of 1815, on the polite fiction that – since they had already been drafted in 1813, and had been released temporarily after the 1814 abdication – this recall did not signify a return to the deeply unpopular policy of annual conscription. By June 1815, these measures had produced a French field army of 284,000 men, with nearly as many more garrisoning coasts and fortresses. Contingents of the field army were assigned to suppress the royalists in La Vendée and to defend the frontiers with Germany, Italy and Spain, leaving 122,000 combat troops to form the Army of the North which would subsequently fight in the Waterloo campaign.

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2. It was unfortunate for Napoleon that the Congress of Vienna had not adjourned, and consequently a Seventh Coalition – formed of Austria, Britain, Prussia and Russia – could be formed quickly to suppress him.
This French army is conventionally regarded as one of the best which Napoleon ever commanded. It blended the survivors of the campaigns in Russia, Germany and Spain with other veterans who had endured captivity as prisoners of war in England and elsewhere, as well as with the inexperienced conscripts of the class of 1815. It included a large number of heavy cavalry (over 12,000 cuirassiers, carabiniers and dragoons), which had the potential to dominate any battle fought in open country, and its field artillery included forty-eight powerful 12-lb cannon which outclassed the lighter 9-lb guns used by the British and the even-lighter 6-lb guns used by the Netherlanders and Prussians. However, it should be remembered that Napoleon’s armies had suffered horrendous losses in the campaigns in Russia in 1812, in Germany in 1813 and in France itself in 1814—including many of the bravest and most experienced officers and non-commissioned officers. Napoleon had twice been forced into desperate improvisations to create new armies from the remains of their predecessors. Such improvisations could fill the ranks, but could not recreate competent and charismatic officers deserving the trust and devotion of the rank and file. The soldiers in the French army of 1815 were doubtless supremely enthusiastic and confident, but many of their officers must have been newly promoted (some replacing officers with royalist sympathies) and lacking experience in their ranks. However, it must be acknowledged that the 1815 Army of the North performed well in the battles of the Waterloo campaign, even if its inferiority in numbers and the failings of its commanders deprived it of ultimate victory.³

Napoleon’s second task was to decide between a defensive and an offensive strategy. A defensive strategy—waiting for the allied armies to invade before manoeuvring against them while they were still constrained by the rivers and fortresses of northeastern France (as in 1814)—would have given Napoleon time to raise and equip more troops and to suppress the royalist rising in La Vendée. But, even with optimistic assumptions about recruitment, the numerical odds against Napoleon in the autumn of 1815 (see Map 1) would have been worse than when he was defeated in the spring of 1814, and French public support (already eroded by the prospect of renewed war, and the associated taxes and casualties) might have been extinguished by the necessary retreat from France’s frontier provinces. Nevertheless, it is worth noting that the advantages of a defensive strategy were sufficiently convincing that, as late as 13 June, Wellington believed that Napoleon would adopt it and consequently did not expect an attack on his position.

On the other hand, a surprise French offensive in June 1815, before the hostile armies had fully assembled, offered the prospect of some quick victories to

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³ After Waterloo a British sergeant major acknowledged that ‘Never did these heroic men, grown grey in victories, better sustain their reputation than on this occasion’. See Andrew W Field, Waterloo: The French Perspective (Barnsley: Pen & Sword, 2012), p. 238.
discourage and disrupt the allied coalition before it could again overwhelm the French army by sheer weight of numbers. Napoleon characteristically chose an offensive strategy, as he had in 1796, 1800, 1805, 1806 and 1809. He chose to attack the two allied armies – under Blücher and Wellington – which were assembling in Belgium and formed the most immediate threat to Paris. Napoleon's principal political objective was the capture of Brussels, which would boost his diplomatic prestige and rally France to support him. Of course, it should be noted that in his earlier offensives Napoleon had never faced such adverse odds as in 1815, when he was outnumbered 7:4 by the combined field armies of Blücher and Wellington. In 1796, he was initially outnumbered 4:3 by the Austrians and Piedmontese, and in 1809 he faced
similar odds against the Austrians in Bavaria. In the other three offensives, Napoleon had either parity or superiority of numbers.

Wellington’s Anglo-Dutch-German field army of 95,000 combat troops (hereafter, Wellington’s army)4 was a heterogeneous and polyglot force. King Willem Frederik of the Netherlands had been offended by the British government’s insistence that its troops should garrison Antwerp and Ostend, and only reluctantly gave Wellington command of all the Netherlands’ forces. The largest contingent in the army was German, some serving as integrated parts of the British and Netherlands armies and others in independent national detachments. Only a small proportion of Wellington’s army (about 20 per cent5) consisted of skilled and experienced British veterans of his victorious campaigns in Spain between 1808 and 1813 (and even those battalions had been diluted by raw recruits and some volunteers from the Militia, then the principal military reserves in Britain). The rest of Wellington’s army included Netherlands troops which had served Napoleon in the recent past and perhaps were unenthusiastic about fighting against him, and large numbers of raw recruits from the smaller German states who might or might not fight well. The army’s organisation (and its command, control and communications) were complicated by nationalistic sensitivities, and the inability of many officers to speak more than one of its three principal languages or to recognise many uniforms worn by the diverse allied army.

Furthermore, in the weeks following Napoleon’s return from Elba in March 1815, the assembly of Wellington’s army was hindered because the British government did not recognise Napoleon as the French head of state. Accordingly, Britain was not at war with France and the British government could not legally call on the Militia for garrison duty and thus free regular troops to join Wellington’s army (which then had the legal status of a posse seeking to arrest Napoleon as an outlaw).6 Eventually, Britain’s politicians and lawyers decided that ‘the immediate prospect of war’ justified calling out the Militia,7 but the enabling parliamentary bill became law only on 14 June, the day before Napoleon invaded the Netherlands.

Blücher’s Prussian army of 117,000 combat troops lacked the Guard and heavy cavalry regiments, these having been retained at home by King Friedrich Wilhelm III. Only half of its infantry battalions were regular troops and the other half were inexperienced and poorly equipped militia

4. This clumsy designation has been used near the start of the paper to counteract the delusion prevalent in the UK that Wellington’s army was predominately British. Later in the text it is generally described as ‘Wellington’s army’.
6. The Royal Navy was less scrupulous and began to capture French merchant ships as soon as Napoleon was known to be established in Paris.
(Landwehr). Among its ranks were many troops which had been recruited from provinces transferred to Prussian rule only a year earlier and whose loyalty was accordingly doubtful (14,000 Saxon troops had already mutinied and been sent home in disgrace).

Both allied armies thus included large numbers of troops which lacked skill, experience or proven loyalty; such troops might well disintegrate in adversity, so the odds against Napoleon (212,000 allied troops in comparison to 122,000 French) were less unfavourable than the raw numbers suggest.

The Theatre of Operations
Map 2 shows the principal towns, rivers and paved roads in the area of operations. It demonstrates that the main roads radiated from the most important towns, such as Brussels, so that it was comparatively difficult for armies to march in other directions. In particular, there was only one good east–west road between Brussels and the French frontier; this road from Namur to Nivelles formed a vital link between the bivouac areas occupied by the armies of Blücher and Wellington.

The part of southern Belgium where the Waterloo campaign was fought was mostly fertile farmland with scattered farms, villages and chateaux. A typical farm had a farmhouse and outbuildings arranged around a walled courtyard and could rapidly be converted into a small fortress. Chateaux which had the same arrangement on a larger scale, and villages which had a cluster of sturdy houses and other buildings, were both even more defensible. In most areas, the density of such settlements was such that any battlefield in open country would include some farms and villages, and any battle would inevitably involve deadly struggles to capture their buildings. In the course of the Waterloo campaign, the buildings in Belgian farms and villages provided the inexperienced troops, particularly in the allied armies, with unambiguous objectives for attack and equally unambiguous lines of defence.

A Napoleonic army could in principle move across country following minor roads and field paths, but in practice such routes were narrow, winding and very muddy after rain, so progress along them would inevitably be slow. It was much faster and less tiring for an army to follow one of the few main roads, which were paved and could withstand the passage of multiple guns and wagons. Hence, any French invasion with the aim of taking Brussels needed to follow one of the main roads from Tournai, Mons, Binche, Charleroi or Namur, and the allied armies were initially deployed to block all these routes.

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8. The Landwehr were brave and well motivated, but they were ill trained and inexperienced. It is claimed that they could stand fast but otherwise they were capable of only two manoeuvres: advancing in disorder and retreating in chaos. See Bernard Cornwall, *Waterloo: The History of the Four Days, Three Armies and Three Battles* (London: William Collins, 2014), p. 30.
Unfortunately for the allies, there was only one good lateral road south of Brussels, running from Namur in the middle of the Prussian cantonments to Nivelles on the eastern edge of Wellington’s army. When Wellington’s army moved eastward to reinforce the Prussians, it had to rely on minor roads and it moved accordingly slowly. When the Prussians later marched from Wavre to Waterloo along the poor roads through the valley of the Lasne, their progress was similarly slow.

The theatre of operations included some major rivers, such as the Sambre and the Dyle (also now known as the Dijle), which could only be crossed on bridges, and many streams whose marshy valleys invariably delayed marching troops. There were also some woods which blocked lines of sight and inhibited the passage of cavalry and artillery.

The dispersal of the allied armies over an area of over 4,000 square miles, along the Belgian frontier and rearward to Brussels and Liège (see Map 3), was probably designed partly to block the several potential invasion routes which the French might choose and partly to provide convenient and economical subsistence. The allied commanders implicitly accepted the associated penalty that their armies would need time to concentrate on the junction between them and even longer to concentrate on their extreme left or right wings. In particular, Blücher should have appreciated (as Clausewitz certainly did in his retrospective writings\(^9\)) that parts of Wellington’s army were 60 miles (as the crows flies) from the Sombreffe area, on the west side of the Prussian bivouacs, and could not hope to reach that area in less than two days following the issuing of appropriate movement orders by Wellington.

The location of Wellington’s headquarters in Brussels was diplomatically and socially convenient, but it was a long way from the French frontier and the centre of gravity of his dispersed army. That delayed communications between his headquarters and his subordinate commanders, thus making it difficult for his army to react quickly to an unexpected French attack. Furthermore, most of his cavalry were bivouacked near the open (western) flank of his army and thus, when Napoleon advanced through Charleroi, it was not well placed to counter him. Consequently, the Netherlands infantry at Quatre Bras had to fight without the support of cavalry until mid-afternoon on 16 June.

**Strengths of Forces Engaged**

There is considerable variation in the numbers cited by historians for the strengths and losses of the three contending armies during the Waterloo campaign, even after 200 years of study and analysis. Not all units stayed with their parent formations, and some soldiers were detached from their


Map 3: Bivouac Areas, 14 June.
units to undertake different supporting roles according to the customs and practices of the different armies. Some historians include only combat troops – infantry, cavalry and gunners – in their estimation of the total numbers in the armies at the beginning of the campaign, while others include staff officers, engineers and other support troops. Contemporary British orders of battle quote only rank and file, implicitly regarding officers as having only an inspirational and ornamental role.

During four days of intensive marching and fighting the strength of each and every formation in the three armies was depleted by detachments, casualties and straggling, and the armies’ record keeping was (understandably) sketchy. Contemporary commanders (and later historians) had to use their best judgement to estimate the number of troops present on a particular battlefield, the smaller number which were actively engaged, and the losses they incurred, avoiding as far as possible personal prejudice and nationalist propaganda. This study (in Tables 1, 2 and 3, and elsewhere) cites estimates of the number of combat troops of all ranks, at the beginning of the campaign and in subsequent battles, but these numbers should be regarded as indicative rather than definitive.

Table 1: Organisation and Strength of the French Army.

<table>
<thead>
<tr>
<th>Corps</th>
<th>15 June</th>
<th>Quatre Bras</th>
<th>Ligny</th>
<th>Waterloo</th>
<th>Wavre</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. D’Erlon</td>
<td>19,500</td>
<td>-</td>
<td>-</td>
<td>19,500</td>
<td>-</td>
</tr>
<tr>
<td>II. Reille</td>
<td>25,700</td>
<td>21,700</td>
<td>4,000</td>
<td>17,900</td>
<td>-</td>
</tr>
<tr>
<td>III. Vandamme</td>
<td>17,300</td>
<td>-</td>
<td>17,300</td>
<td>1,200</td>
<td>12,300</td>
</tr>
<tr>
<td>IV. Gérard</td>
<td>15,800</td>
<td>-</td>
<td>15,800</td>
<td>-</td>
<td>12,500</td>
</tr>
<tr>
<td>VI. Lobau</td>
<td>10,100</td>
<td>-</td>
<td>-</td>
<td>7,400</td>
<td>2,700</td>
</tr>
<tr>
<td>Guard</td>
<td>20,300</td>
<td>-</td>
<td>17,900</td>
<td>19,300</td>
<td>-</td>
</tr>
<tr>
<td>Pajol</td>
<td>3,100</td>
<td>-</td>
<td>3,100</td>
<td>1,500</td>
<td>1,300</td>
</tr>
<tr>
<td>Exelmans</td>
<td>3,600</td>
<td>-</td>
<td>3,600</td>
<td>-</td>
<td>3,300</td>
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<tr>
<td>Kellerman</td>
<td>3,700</td>
<td>800</td>
<td>-</td>
<td>3,400</td>
<td>-</td>
</tr>
<tr>
<td>Milhaud</td>
<td>3,200</td>
<td>-</td>
<td>3,200</td>
<td>2,900</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>122,300</strong></td>
<td><strong>22,500</strong></td>
<td><strong>64,900</strong></td>
<td><strong>73,100</strong></td>
<td><strong>32,100</strong></td>
</tr>
</tbody>
</table>

*Note: During the campaign Napoleon reshuffled divisions and brigades; the corps strengths were altered by these alterations as well as by straggling and casualties.*
**Table 2:** Organisation and Strength of the Anglo–Dutch–German Army.

<table>
<thead>
<tr>
<th>Corps</th>
<th>15 June</th>
<th>Quatre Bras</th>
<th>Ligny</th>
<th>Waterloo</th>
<th>Wavre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>32,000</td>
<td>18,000</td>
<td>-</td>
<td>30,000</td>
<td>-</td>
</tr>
<tr>
<td>Hill</td>
<td>26,000</td>
<td>-</td>
<td>-</td>
<td>10,000</td>
<td>-</td>
</tr>
<tr>
<td>Uxbridge</td>
<td>13,000</td>
<td>1,000</td>
<td>-</td>
<td>11,000</td>
<td>-</td>
</tr>
<tr>
<td>Reserve</td>
<td>24,000</td>
<td>15,000</td>
<td>-</td>
<td>21,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>95,000</td>
<td>34,000</td>
<td>-</td>
<td>72,000</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note: In Wellington’s army the corps structure was merely administrative and had no operational significance.*

**Table 3:** Organisation and Strength of the Prussian Army.

<table>
<thead>
<tr>
<th>Corps</th>
<th>15 June</th>
<th>Quatre Bras</th>
<th>Ligny</th>
<th>Waterloo</th>
<th>Wavre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ziethen</td>
<td>31,000</td>
<td>-</td>
<td>29,000</td>
<td>4,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Pirch</td>
<td>32,000</td>
<td>-</td>
<td>31,000</td>
<td>7,000</td>
<td>-</td>
</tr>
<tr>
<td>Thieleman</td>
<td>24,000</td>
<td>-</td>
<td>23,000</td>
<td>-</td>
<td>15,000</td>
</tr>
<tr>
<td>Bülow</td>
<td>30,000</td>
<td>-</td>
<td>-</td>
<td>30,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>117,000</td>
<td>-</td>
<td>83,000</td>
<td>41,000</td>
<td>16,000</td>
</tr>
</tbody>
</table>


*It should be noted that the allied force at Quatre Bras and the French force at Wavre came into action over a protracted period; in both cases their apparent superiority of numbers is unrepresentative.*

**Napoleon’s Plan of Attack**

Napoleon was aware that the allied armies were spread over a 100-mile front between Liège and Tournai, that their respective lines of communication diverged dramatically (running northwest to Ostend and east to the Rhine for the British and Prussians, respectively), and that they had made no provision to destroy the bridges across the River Sambre. Map 3 shows approximately the bivouac areas of the allied armies and their respective lines of communication (LoC). Napoleon considered that a sudden French offensive at the junction of the allied armies might well force them to retreat along divergent axes, allowing him to win political prestige through the

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10. In 1794, Général Jourdan, campaigning in the same area, had split the Austrian and British forces and forced them to retreat along divergent axes.
capture of Brussels. Furthermore, he knew that commanders under pressure often make mistakes and that these two particular commanders – aggressive Blücher and prudent Wellington – might react differently to an unexpected French offensive. Napoleon therefore planned to concentrate most of his available field army secretly in the northeast of France (around Beaumont), to advance rapidly on 15 June into the central position between the two allied armies, and to take advantage of any opportunities to defeat them in succession. This was probably the best plan available to him, and it might well have succeeded because, in the event, both allied commanders did make potentially disastrous errors.

In launching his offensive into Belgium, Napoleon knew that he faced adverse odds of nearly 2:1 (see Tables 1, 2 and 3). He could not realistically hope to reduce those odds significantly by achieving a series of victories which consistently inflicted more than double the losses which his own army sustained. Early in the Napoleonic wars, the incomparable French Grande Armée had indeed achieved such victories, for example, at Austerlitz in December 1805 and at Jena in October 1806. However, since then the quality of the French troops had been progressively eroded by several hard-fought campaigns and enemy armies had become more proficient, so that in the years preceding Waterloo the French were defeated as often as they were victorious and decisive French victories had become extremely rare (indeed, in 1813 the French army experienced such success only at Dresden, and in 1814 only at Montereau). Nevertheless, it appeared to Napoleon that a defeat might put an enemy army out of action for weeks, until its morale and organisation had recovered from its losses. If he could separately defeat the Anglo-Dutch-German and the Prussian armies, by manoeuvring his own forces cleverly to attain superiority of numbers on the battlefields, they would probably be unable to resist his occupation of Belgium, which would bring political and material benefits. Ultimately, however, Napoleon was to be surprised during the Waterloo campaign by the resilience of the Prussians, in whom the War of Liberation (Befreiungskrieg) in 1813–14 had stimulated great patriotic enthusiasm; this allowed them to recover quickly from defeat at Ligny, and to fight again only two days later.

Napoleon might have given his offensive strategy a better chance of success by drawing some of the troops deployed on the Rhine, the Alps and the Pyrenees into the Army of the North on the Belgian frontier. Information on the accumulation of hostile Austrian, Russian and Spanish forces provided by his spies and sympathisers must have indicated that these forces were not yet ready to invade; the Russian forces, for example, were still two weeks’

march from the French frontier. Until the allied forces were ready, smaller French screening forces on those frontiers could probably have repelled any small-scale enemy incursions until the campaign in Belgium had been successfully concluded. An additional couple of divisions of French troops in Belgium would have made success there rather more likely.

**Allied Plans**

Neither Blücher nor Wellington expected Napoleon to take the offensive, and both were fully occupied with the many problems in assembling their armies. Following a false alarm of a French offensive on 1 May, they had reached a general agreement at Tirlemont on 3 May to come to each other’s aid if attacked, but they had not formulated mutually understood contingency plans in anticipation of a possible French attack (nor had they prepared the Sambre bridges for demolition). These omissions by the allied commanders violated Napoleon’s dictum that ‘it is requisite to foresee everything that the enemy may do, and to be prepared to counteract it’. Several decades later, German Field Marshal Helmuth von Moltke also articulated the importance of considering all alternative scenarios, remarking that: ‘In military affairs you will generally find that the enemy has three alternative options available to him, and of these he will choose the fourth’.

In particular, Wellington’s staff had failed to plan how his dispersed army could most efficiently be concentrated on its left flank, around Nivelles and Quatre Bras. Accordingly, when his troops tried to march eastward on 16 June (in response to orders issued the previous evening and received at varying times depending on the zeal and skill of the couriers), some units got lost and others were delayed in traffic jams on narrow country roads heading for Nivelles. The concentration of Wellington’s army thus proceeded more slowly than his headquarters staff had expected, more slowly than was implied by the messages to Blücher on the evening of 15 June from his liaison officer at Wellington’s headquarters, and more slowly than was indicated by the ‘Dispositions’ document which Wellington’s staff compiled on the morning of 16 June indicating where his troops were at that point. Even when Wellington himself wrote to Blücher in the middle of the morning on 16 June, he had to guess when his more remote units had received their orders and how much progress they had made. It is possible that Wellington and his staff deliberately deceived the Prussians, but it is surely more likely that they were simply over-optimistic. Similarly, there is no need for conspiracy theories to explain the Prussians army’s failure to reinforce Wellington more rapidly at Waterloo on 18 June.

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13. Other units straggled and became dispersed as sub-units and supply wagons chose to follow different tracks at unmarked crossroads.
Final Preparations
Throughout early June, despite Napoleon’s orders prohibiting travellers and letters from crossing the Franco-Belgian border, Blücher and Wellington received a multitude of diverse and inconsistent reports (some deliberately misleading) about the movements of Napoleon and his senior commanders, and of the French army more broadly. These reports generated some false alarms which annoyed and demoralised the allied troops. During this period, Wellington continued to believe (correctly) that Napoleon was still in Paris, despite rumours that he had arrived near the frontier and was about to attack. The discrediting of successive rumours may have helped to convince Wellington of the reliability of his own sources of intelligence.

By the evening of 13 June most of Napoleon’s army was concentrated around Beaumont, and Prussian patrols across the border had seen the glow of many bivouac fires (but decided that they could be merely a deception). On 14 June, some French deserters told the Prussians guarding the frontier that Napoleon would attack the following day, and their evidence was sufficiently credible that, at midnight, the Prussian Chief of Staff Gneisenau alerted the Prussian troops in the Charleroi area (Ziethen’s corps) and ordered all of the other Prussian corps around Namur, Dinant and Liège to concentrate and march westward.

Wellington, however, remained sceptical because he had received no convincing evidence from his own sources of an imminent French invasion. He was unaware that such intelligence had actually reached Mons on 14 June but the officer in charge there (Major General Sir William Dörnberg) had chosen to send to Brussels only a précis which omitted significant items and crucially did not identify the source of the intelligence information. The précis therefore received no particular attention when it arrived at Wellington’s headquarters at 9 pm that evening.

14. The allies’ scope for gathering intelligence about the French preparations was inhibited by the political dogma that they were not at war with France, which prevented them from sending reconnaissance patrols across the French frontier.
III. The First Day, 15 June

Before dawn on 15 June, the French were on the march, sweeping across the frontier and driving back any Prussians they encountered. Napoleon planned to advance rapidly into a central position between the two allied armies, and to take advantage of any opportunities to beat them in succession. However, the French advance did not go entirely smoothly: the single officer carrying a movement order to Vandamme’s army corps (Berthier – formerly the chief of staff of the Grande Armée, 1802–14 – would normally have sent three) had an accident so his corps started four hours late. The desertion to the Prussians of General Bourmont, who was commanding the leading division of Gérard’s corps, provoked some confusion and delayed its advance. In addition, the roads south of the River Sambre were poor and often blocked by Prussian obstructions (trenches and felled trees). Further delays were caused by stubborn resistance from Prussian outposts along the frontier, demonstrating that the Prussian militia (Landwehr) was prepared to fight hard.

Nevertheless, by noon the French were across the Sambre at Charleroi, and had split into:

- A right wing pushing the Prussians northeast towards Fleurus
- A left wing driving up the road to Quatre Bras and to Brussels beyond
- A reserve around Charleroi under Napoleon’s personal command.

The right and left wings each consisted of two army corps accompanied by one or two corps of reserve cavalry; the reserve consisted of the Imperial Guard, one small army corps and a corps of reserve cavalry. That afternoon, the two wings were assigned respectively to recently promoted Marshal Grouchy and to Marshal Ney (see Appendix B); the latter was reputed to be the ‘bravest of the brave’ and was immensely popular with the army. Neither of these two officers had ever demonstrated great capabilities in command of an independent force (indeed, Ney had bungled a flank attack at Bautzen in 1813 and thereby deprived Napoleon of a potentially decisive victory), but Napoleon expected that the two wings would be operating close together and under his own control. In practice, however, this would prove impossible – Napoleon could not be with both wings simultaneously – because it took two hours for messages to pass between the wings on 16 June (between Ligny and Quatre Bras) and four hours on 18 June (between Waterloo and Gembloux).

Napoleon had successfully used the ‘strategy of the central position’ when he was outnumbered in Italy in 1796, and he must have hoped that he could again defeat the allied armies in succession by massing against first
one and then the other. However, it is remarkable that having chosen that strategy for 1815, he failed to designate, in advance, commanders for the two wings of his army, allowing them a few days to assemble effective staff officers, establish rapport with their subordinates and understand their roles in the forthcoming campaign. As a result of this failure to establish a well-understood command structure, the advance of the French right wing from Charleroi toward Ligny late on 15 June was delayed when General Vandamme, a notoriously quarrelsome veteran commanding the III Army Corps, was reluctant to obey Grouchy, the newly promoted marshal and designated commander of the right wing. Napoleon had to issue a formal instruction that he would henceforth deliver orders through Ney and Grouchy (unless he was personally present on the battlefield) and that any command from either of the wing commanders should be obeyed without question.

**Allied Reactions**

As news of the French threat and later of attacks on the Prussian outposts radiated from the Franco-Belgian frontier, Blücher and Wellington had to take their first key decisions in the Waterloo campaign. Their options were to:

- Take no action until the situation became clearer
- Assemble and deploy their troops to counter the apparent French invasion.

As noted above, General Gneisenau had already decided by midnight on 14 June to deploy the Prussian army westward towards the French invasion and towards a junction with Wellington. The following morning his judgement was confirmed by the defection of General Bourmont who revealed Napoleon’s plan of campaign to the Prussians. During the morning, Blücher moved his headquarters from Namur to Sombreffe where he planned to concentrate his army (Sombreffe lay on the paved road from Namur to Nivelles – the only good road connecting the two armies south of Brussels – and this move would therefore facilitate his communications with Wellington).

Blücher knew that Ziethen’s corps was falling back from the frontier towards Fleurus, and he expected that the other three Prussian corps were en route to join him at Sombreffe on 16 June. His united army would then be strong enough to fight whatever part of the French army it encountered.

However, in reality, and unfortunately for the Prussians, their caste system had interfered with communications. The order sent at midnight on 14 June by Gneisenau – who had been born into an impoverished family in Saxony – to the aristocratic, very senior and notoriously irascible Prussian General von Bülow (who was commanding the corps around Liège) was

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worded so obsequiously that it lacked any sense of urgency. In the order, Gneisenau wrote:2

I have the honour humbly to request your Excellency to be kind enough to concentrate the IV Corps under your command tomorrow, the 15th, at Hannut in close cantonments. Information received makes it more and more probable that the French army has concentrated against us and that we must expect from it an immediate change to the offensive. For the time being the Field Marshal’s headquarters will remain at Namur. Your Excellency may find it advisable to move your headquarters to Hannut.

Gneisenau signed the dispatch himself as Blücher was asleep. Bülow considered that this suggestion from a junior officer was advisory rather than mandatory, and therefore decided to concentrate his corps during 15 June and to start his march from Liège on the following day.

Throughout the afternoon of 15 June, meanwhile, Wellington received increasingly authoritative reports of a French attack in the Charleroi area, but having had no corroborating report from his trusted chief of intelligence, Lieutenant Colonel Colquhoun Grant, he doubted that the reported attack was a full-scale offensive. He considered that it might well be a feint, to distract his attention from a real offensive through Mons, which he believed to be the more likely axis for any French invasion aiming to cut his line of supply to Ostend.3 He was probably apprehensive that his inexperienced staff and his heterogeneous army might react clumsily to any drastic change of plan (working on the precept that ‘order + counter-order = disorder’) and he was therefore reluctant to issue movement orders until he was reasonably sure of the situation. Reports from inexperienced Prussian outposts were not sufficiently convincing in this regard.

Accordingly, Wellington took no action until a message from Blücher arrived in the late afternoon announcing the Prussian plan to concentrate at Sombreffe, where his army would most likely be exposed to a French attack on the following day. After this message, Wellington could no longer risk waiting for the situation to become clearer, and at 1900 he ordered his various divisions to assemble in the centres of their respective cantonment areas, and to be prepared to move either towards the Prussians or to block

3. Because of the British government’s concern for the Channel ports, Wellington was particularly apprehensive of a French attack along the Maubeuge–Mons–Brussels axis. He was aware of French attacks on Thuin, west of Charleroi and close to one of the main roads to Mons, and was not reassured by the knowledge that Mons was fortified and would force invaders to detour around it.
a French advance through Mons (which he still considered to be the more likely axis of a French offensive).

Further reports reached Wellington during the evening. The first at 2330 advised him that there were no French regular troops in the Mons area. The second came after midnight, while he was at the Duchess of Richmond’s ball (where the ladies were outnumbered 3:1, so there was ample opportunity for military discussions), and reported that French cavalry had already advanced far enough to threaten Quatre Bras. After consulting the Duke of Richmond’s map, he dispatched orders for his troops to march on Quatre Bras ‘with as little delay as possible’. Given the time it took to distribute these orders overnight to all of his far-flung units, many of them were not able to reach Quatre Bras in time to fight on the following day; but at least those divisions which had been quartered in and around Brussels were on the march by dawn.

Fortunately for the allies, the Netherlands’ Lieutenant General Perponcher appreciated the importance of the crossroads at Quatre Bras. He therefore did not assemble his division at Nivelles, as commanded by Wellington’s 1900 order, but instead assembled one brigade at Nivelles and the other at Quatre Bras, where it repulsed scouting French cavalry on the evening of 15 June. It was an act of intelligent disobedience that, after the war, was to earn Perponcher the Prussian Grand Cordon of the Order of the Red Eagle, conferred upon him by King Friedrich Wilhelm III in accordance with Gneisnau’s recommendation that he had saved the allied armies from defeat.

It is interesting to speculate that, had Perponcher followed orders and withdrawn from Quatre Bras to Nivelles on the evening of 15 June, the French would have occupied the crossroads early on the following morning. When Blücher learned that the crossroads had been captured, and hence that the arrival of any reinforcements from Wellington’s army would be indefinitely delayed, he might well have retreated northeast towards Gembloux, sacrificing part of Ziethen’s corps as a rearguard. Thereafter, the campaign would have evolved differently from its historical course; it is not impossible that a strong French offensive up the Charleroi–Brussels road on 16 June would have swept aside Wellington’s assembling army and captured Brussels.


Results of the First Day
By the evening of 15 June, the campaign was going well for Napoleon. Vandamme’s corps, despite its late start resulting in a three-hour delay in the capture of Charleroi, had advanced 24 miles against Prussian rearguards from Beaumont through Charleroi to the wood just south of Fleurus. The leading division of Reille’s corps had covered 27 miles from Soir sur Sambre through Marchienne to near Frasnes, only 2 miles short of Quatre Bras, and two more of his divisions were only 5 miles behind at Gosselies. The rest of the French army was several miles farther back: d’Erlon’s corps was at Jumet, Marchienne and Thuin; Gérard’s was astride the Sambre at Chatelet; Lobau’s was still south of the Sambre and the Guard was just north of Charleroi. Nevertheless, all these units were within a few hours’ march of the paved Nivelle-Namur road connecting the two allied armies.

Even better for Napoleon’s prospects of victory, Blücher had responded to the French offensive by a risky forward concentration to a position along the Ligny brook, where Ziethen’s corps could not be supported till mid-morning. Blücher had pugnaciously decided to fight without knowing for certain that he would be supported either by his rearmost corps from Liège or by elements of Wellington’s army; in that position, his army would be vulnerable if the French concentrated against it. By contrast, Wellington had been deceived (‘humbugged’ as he then admitted) into delaying the concentration of his army because of his doubts about the axis of the French offensive. He was chronically concerned about his line of communication to Ostend and perhaps also about the personal security of Louis XVIII at Ghent. So, in this complex situation, he delayed issuing movement orders for his army to counter the actual French thrust until after midnight on 15 June, during the Duchess of Richmond’s ball. As a result, fewer than half of Wellington’s troops would be available for action by the end of the following day and, were it not for the intelligent disobedience of some Netherlands officers – such as Perponcher – the French could have captured the crossroads of Quatre Bras that same evening. Furthermore, that vital crossroads remained vulnerable throughout most of 16 June until the first reinforcements arrived from Brussels in mid-afternoon.

However, the French could only take advantage of these allied errors if Napoleon and his principal commanders (particularly marshals Ney and Grouchy) displayed appropriate alacrity and judgement. Furthermore, when Napoleon issued his orders for operations on 16 June, he had only scant information about the positions of the allied forces; he knew only that some Prussians had retired to Fleurus, and that there was some Netherlands infantry near the crossroads of Quatre Bras.
Selection of Subordinates
Napoleon blamed his defeat in the Waterloo campaign on errors by his two principal lieutenants, Marshals Ney and Grouchy, and many of his admirers have repeated those criticisms indiscriminately. The actions of those two officers are discussed at the appropriate stages throughout this study, and Appendix B provides summaries of their earlier careers.

Given that the survival of Napoleon’s restored Empire depended critically on his success in the campaign in Belgium, it was vital that he make the best possible allocation of the officers available to him, and to establish an effective and harmonious command structure before the campaign began. However, he failed in this, selecting Marshal Soult as his chief of staff although he had little experience of staff work and he had poor relationships with many other marshals (especially with Ney). Furthermore, and as previously noted, he did not appoint Ney and Grouchy as wing commanders until the campaign had begun. In particular, the unexpected selection of newly promoted Grouchy to command the right wing did not inspire confidence among his corps commanders; so Napoleon had to issue an order insisting that all subordinate commanders should obey Grouchy or Ney without question unless the emperor himself was present. This contributed to d’Erlon’s dilemma on 16 June when he received contradictory orders from Ney and from Imperial staff officers.

6. Soult had served for about a year as a divisional chief of staff in the Republican Army of the Sambre-et-Meuse twenty years earlier.

7. It is interesting to speculate whether the outcome of the Waterloo campaign would have been significantly different with a more experienced staff officer (like Count de Mountlyon or Baron Lacroix) as chief of staff, with Soult and Davout commanding the left and right wings, with Ney commanding the Imperial Guard under Napoleon’s close supervision, and with Grouchy and Drouot in their proper roles as heads of cavalry and artillery respectively.
IV. The Second Day, 16 June – Quatre Bras and Ligny

Very early on 16 June, Perponcher assembled most of his division (7,000 infantry and sixteen guns) in the woods and farmhouses just south of Quatre Bras. Concurrently, Prussia’s General Ziethen withdrew his frayed corps from its bivouacs around Fleurus to its intended defensive position behind the Ligny brook and his troops fortified the villages along that stream. Ziethen’s corps was alone in its position defending Sombreffe until the Prussian corps under the command of Pirch and Thielemann arrived at 1000 and 1200, respectively.

Map 4 shows the actual positions of the principal contingents of French and allied troops at 0830 on the morning of 16 June, about the time when Napoleon issued his orders for the day. It shows the two leading French army corps (Reille’s II and Vandamme’s III) ready to advance on Quatre Bras and Sombreffe respectively, aiming to cut the Namur-to-Nivelles road, and the rest of the French army following behind. It also shows Wellington’s reserve on the march from Brussels, the Prince of Orange’s corps concentrating towards the Nivelles/Quatre Bras area, and the two Prussian army corps on the march from Namur to join Ziethen’s corps in front of Sombreffe.

Map 5 presents the situation as it was perceived by Wellington and Blücher, and shows that Wellington was then overly optimistic about the progress of Lieutenant General Lord Rowland Hill’s army corps and the Earl of Uxbridge’s cavalry, which had in fact only lately left their distant bivouacs and did not actually arrive at Quatre Bras that day. Blücher had a reasonably accurate idea of the positions of his own troops, though he was probably disappointed that Pirch and Thielemann had taken longer than expected to assemble and move their army corps, and that Bülow’s corps would be unable to join him until the following day.

By the morning of 16 June, Blücher and Wellington could infer that the bulk of the French Army of the North was massed in the Charleroi-Fleurus-

2. Here, as elsewhere in this review of the campaign, arrival times are approximate; an army corps in column occupied several miles of road and there was inevitably considerable time between the leading troops arriving on the battlefield and the complete corps being deployed for action.
3. Wellington may not have entirely accepted the assessment in the ‘Dispositions’ document prepared by his staff but he must have believed that his army’s concentration was almost complete or he would not have risked leaving it to visit Blücher – see Ian Fletcher, A Desperate Business: Wellington, the British Army and the Waterloo Campaign (Tonbridge: Spellmount, 2001), p. 50.
Fighting in the Fog of War

French Plans and Deployment

Early that morning, Napoleon had received reports from Grouchy that there were many Prussian troops in front of Sombreffe (and that more were approaching Sombreffe from the east), as well as a report from Ney that there was Netherlands infantry covering the crossroads at Quatre Bras. However, Napoleon apparently did not credit the evidence that the allied armies might be concentrating forward. He instead chose to believe that the forces at Sombreffe and Quatre Bras were only rear guards, covering the retreat of the allied armies as they strove to concentrate to defend Brussels.
Map 5: Wellington’s View at 0830, 16 June.

Map 6: Napoleon’s View at 0830, 16 June.
or their respective lines of communication – something that Julius Caesar, one of Napoleon’s most admired commanders in history, had always been careful to achieve. In the Netherlands in 1794, and again in Italy in 1796, allied armies under pressure from French attacks had chosen to retreat along divergent lines of communication and thus exposed themselves to defeat in detail; the resulting set of victories in Italy had established the reputation of young General Bonaparte as an army commander. It was therefore entirely understandable for Napoleon to hope that Blücher and Wellington would do likewise.

Map 6 shows the situation as perceived by Napoleon and reflects his expectation that d’Erlon and Gérard had made an early start and were further forward than their actual positions. At about 0830, he sent orders to Grouchy and Ney to continue the advances of their respective wings, through Sombreffe towards Gembloux and through Quatre Bras towards Brussels. His orders to Ney instructed him to be ready to march on Brussels at or after 1500 that day. Napoleon planned that after he had engaged the Prussians deployed in the Sombreffe area, and had driven them eastward, well away from the Charleroi-to-Brussels road, he would move his reserve to join Ney. Together they would capture Brussels early on 17 June. The order to Ney implied that he would have captured Quatre Bras by mid-afternoon, but conveyed no sense of urgency. Napoleon had already printed proclamations, dated ‘Brussels, 17th June’, calling on the liberated Belgians to support him as formerly.

At 0930, Napoleon set off for Fleurus, having ordered his Imperial Guard to follow but leaving Lobau’s small corps at Charleroi from which it might join either wing along good roads. It is evident with hindsight that Lobau’s corps should have been moved further north – for example, to the crossroads near Mellet which lies some 3 miles south and 3 miles west of the battlefields of Quatre Bras and Ligny respectively. From that position, it could have quickly joined whichever of the two French wings needed its support. From near Mellet, Lobau’s corps would also have been better placed to advance between the two enemy armies if it proved necessary to interdict communication between the enemy commanders.

5. In earlier campaigns Napoleon had dictated his orders at 0200 so that they could reach his subordinate commanders at dawn but in 1815, when speed was more important than ever, his staff work lacked urgency.
6. His 0830 order to Ney (cited in full by Commandant Lachouque) is principally concerned with the allocation of troops to the left wing and with Ney’s absolute authority over them when Napoleon was not present; it does not envisage any serious opposition to the French manoeuvres that day. See Henry Lachouque, Waterloo 1815 (London: Arms and Armour, 1972), pp. 84–86.
By 1100, Napoleon was at the top of a windmill in Fleurus from which he could see a substantial Prussian force (actually Ziethen’s corps of about 29,000 men) deployed along the Ligny stream. Napoleon could not at that time have personally seen Pirch’s corps, which was then deploying behind the hill of Brye, or Thielemann’s corps approaching along the road from Namur. At this point, Napoleon had on the battlefield Vandamme’s army corps, an additional infantry division detached from Reille’s corps and two corps of reserve cavalry (together about 28,000 men); and he knew that the Imperial Guard, Gérard’s army corps and another corps of reserve cavalry (another 37,000 men) were on the march to join him. He decided to attack the Prussians as soon as these reinforcements arrived, but he again failed to summon Lobau’s army corps forward from Charleroi. At 1400, Soult sent the following message to Ney advising him that Grouchy would soon attack the Prussians around Sombreffe:

His Majesty’s intention is that you will attack whatever force is before you, and having vigorously driven it back, you will turn in our direction to envelop those enemy troops [Prussians] whom I have already mentioned to you. If the latter is overthrown first, then his Majesty will manoeuvre in your direction to assist your operations in the same way.

That message ordered Ney to drive back the forces opposing him at Quatre Bras and then march on Sombreffe to envelop the Prussians, and conversely promised that if the Prussians were beaten quickly Napoleon would bring reinforcements to Quatre Bras. It did not convey to Ney that his operations should be subordinated to Napoleon’s operations at Ligny.

Until the Battle of Ligny began, Napoleon continued to assume that the allied armies were retreating and that the Prussian forces which he could see were a rearguard which could be overwhelmed by the French forces present or en route to the battlefield. He did not know, until after the battle began at 1500, that the Prussians had actually decided to concentrate their forces at Sombreffe and that during the morning two more Prussian army corps had reached the battlefield (their leading elements arrived at 1000 and 1200, respectively), giving Blücher 83,000 men and a significant superiority of numbers (see Table 3).

7. Napoleon’s view was obscured by the willows along the Ligny stream, by the high ground behind the villages of Ligny and St Amand, and by the elms lining the Nivelles–Namur road.
Quatre Bras

Ney received Napoleon’s 0830 order at 1100, and immediately issued marching orders to his troops.8 Reille advanced his corps cautiously, having served in Spain and having learned respect for Wellington’s ability to conceal his troops and ambush unwary attackers.9 Accordingly his troops did not assault the outnumbered Netherlands troops around Quatre Bras until 1430, shortly before the arrival of British reinforcements. In the early part of the afternoon the French attacked vigorously and advanced towards the crossroads, spurred on by successive messages from Napoleon demanding haste (such exhortations could usefully have accompanied an early order to attack soon after dawn, but they were superfluous by mid-afternoon). In this phase of the battle, the French cavalry was superior in both numbers and quality, but its operations were inhibited by woods and farm buildings; it did occasionally manage to inflict severe losses on some allied infantry whenever they were taken by surprise and unable to form square. During the afternoon, the arrival of successive contingents of allied reinforcements reversed the initial French advantage of numbers and halted their attack short of the crossroads.

Ney now desperately needed the support of d’Erlon’s corps but at 1700 he was astonished and horrified to learn that it had been diverted towards Ligny (see Appendix C). He immediately ordered its return, without taking time to calculate that it was already well on its way and could not return before dark, and he continued encouraging his troops to further efforts. By 1730, when Colonel Laurent from Napoleon’s staff found Ney (leading from the front as usual) and explained to him why d’Erlon’s corps had been diverted, the latter had already arrived near Ligny and Ney’s recall order was about to reach him. The parlous situation was now quite beyond Ney’s power to mend it. At 1830, with victory at Quatre Bras increasingly unlikely, he launched a brigade of heavy cavalry (Brigadier General Count Guiton’s cuirassiers) at the centre of the allied line, gambling that some allied units – perhaps tired, inexperienced or out of ammunition – could be routed. One British battalion was broken (losing its King’s colour); others fled into nearby woods and the cuirassiers successfully reached the crossroads of Quatre Bras. However,

8. Soon afterwards Ney received another order from Soult instructing him to ‘group the corps of d’Erlon, Reille and Kellerman and ... with these corps destroy all the enemy corps which present themselves’. See Andrew Uffindell, *The Eagle’s Last Triumph: Napoleon’s Victory at Ligny, June 1815* (London: Greenhill Books, 2006), p. 126. Since at dawn on 16 June, some of d’Erlon’s divisions were still on the Sambre, Soult evidently did not expect Ney to attack urgently, at Quatre Bras or elsewhere.

9. It is remarkable that Reille’s corps cavalry, virtually unopposed by any allied cavalry until mid-afternoon on 16 June, proved unable to establish the scale of the Netherlands force at Quatre Bras and to assure him that there were no British troops present. Apart from the Bois de Bossu, the terrain is open and almost flat and horsemen could have seen over the tall rye in the field well enough to locate any battalions of redcoats.
most of the allied units in the area stood firm, and their converging fire soon forced the cuirassiers to retreat.

By evening, Wellington had a 3:2 superiority of numbers at Quatre Bras (see Tables 1 and 2) and was able to drive the French back to their start line. The French lost 4,100 men and the allies lost 4,800, of whom nearly half were British. For the French army, this represented an average loss of 20 per cent of the forces engaged (the cuirassiers lost 30 per cent); losses at this level were characteristic of a defeated army, and must have significantly reduced the offensive élan of Reille’s corps in its subsequent operations. The various non-British contingents (Dutch, Hanoverians, Nassauers and Brunswickers) which fought at Quatre Bras each lost around 10 per cent but Lieutenant General Picton’s 5th (British) Infantry Division, which was the first of the allied reinforcements to arrive at Quatre Bras and was heavily engaged throughout the afternoon, sustained serious losses of over 30 per cent of its strength.\footnote{The most comprehensive data on the losses incurred by the opposing armies at Quatre Bras are in Peter Hoffschröer, \textit{1815: The Waterloo Campaign. Vol. 1. Wellington, His German Allies and the Battles of Ligny and Quatre Bras} (London: Greenhill Books, 1998); and Uffindell, \textit{The Eagle’s Last Triumph}.}

\textbf{Ligny}

While Gérard’s corps and other reinforcements joined the French forces at Ligny in the early afternoon, the three Prussian corps deployed in defensive positions along the winding Ligny brook. The eastern half of the Prussian line was manned by Thielemann’s corps (numbering 23,000 troops in total), which faced about half that number of French troops, comprising one division of infantry and five (smaller) divisions of cavalry. These forces skirmished inconclusively through the afternoon and evening, but neither attempted a major attack.

On the western half of the Prussian line, the Ligny brook formed a salient pointing south towards the French; the village of Ligny was on the eastern face of the salient and the villages of St Amand, La Haye and Wagnelée lay along the western face. This salient was defended by Ziethen’s corps (now 29,000 strong), which was deployed in the fortified villages and on the slopes behind them leading up to the village of Brye where Blücher had his headquarters. Behind that village, Pirch’s corps (of 31,000) stood in reserve. Opposite these Prussians, Napoleon deployed Vandamme’s corps, most of Gérard’s corps, Giraud’s infantry division (which had been detached from Reille’s corps), Milhaud’s corps of heavy cavalry and his Imperial Guard. In total, there were 65,000 French troops with 230 guns opposed to 83,000 Prussians with 224 guns (see Table 1), giving the Prussians a significant superiority of numbers, although at the start of the battle neither of the rival commanders could have accurately enumerated the opposing army (and, even today, estimates differ in detail). Napoleon confidently expected that
he would receive reinforcements from Ney’s wing after it had driven enemy troops beyond Quatre Bras.\footnote{Lachouque, \textit{Waterloo 1815}.}

At about 1500, the French troops on the western half of the battlefield began a series of attacks on the Prussian position. These attacks led to savage close-quarters fighting in and around the villages, which were taken, lost and retaken as both armies fed additional reinforcements into the carnage. As the Prussian reserves were drawn into the struggle for the villages, the two corps of Ziethen and Pirch became intermingled.

Soon after the French attacks began, Napoleon realised that he needed more troops to provide the margin of superiority needed for a decisive victory. Accordingly, at 1515 he sent an order directly to d’Erlon, ordering him to come at once to attack the Prussian army’s western flank (see Appendix C), and he simultaneously summoned Lobau’s corps from Charleroi. He expected that d’Erlon would arrive at about 1730 along the road from Quatre Bras and that his attack towards Brye would combine with the planned Guard attack through Ligny to encircle and crush most of the Prussian army. Instead, at 1730 a large, unidentified column of troops appeared from the west, more than a mile south of d’Erlon’s expected route, marching towards the rear of Vandamme’s corps, which was demoralised by this apparent threat. While the column was being investigated by Napoleon’s staff (Vandamme’s corps cavalry should have identified it before it approached), Napoleon postponed the planned attack by his Guard; six of its twenty-three battalions were sent to support Vandamme’s corps, and two more to the eastern side of the battlefield to support the outnumbered French troops there. At the same time, a vigorous Prussian counterattack recaptured most of the villages on the western side of the salient, but then stalled in the face of the French Guard battalions. The column which had appeared to the west was eventually identified as d’Erlon’s corps, but most of it then marched off back towards Quatre Bras in response to an urgent and imperative order from Marshal Ney.

It was not until 1930, just as Lobau’s corps was arriving at Fleurus too late to join the battle, that Napoleon reassembled the striking force for his decisive attack. Five battalions of Imperial Guard and three divisions of heavy cavalry stormed through and around Ligny, beat off Prussian counter-attacks and advanced up the hill towards Brye. Blücher, leading a cavalry charge like a former hussar, was unhorsed and ridden over by French cavalry but escaped capture through the loyalty of his aide and the increasing gloom of evening. The Prussian line was finally broken and most of Ziethen’s and Pirch’s corps streamed away northward in disorder. However, enough resolute units remained to establish a rearguard which checked the French pursuit.
With Blücher temporarily missing, command devolved to Gneisenau, who directed the army to retreat north and reassemble at Wavre. This decision accepted the reality that the Prussians who had been fighting on the western part of the battlefield were already retreating in that direction, since the French breakthrough at the village of Ligny had cut off their preferred line of retreat east towards the Rhine and home. Moreover, his decision to retreat on Wavre kept open two options: to move east to join Bülow’s corps en route from Liège or to move west to join Wellington.

At Ligny, the French lost about 11,000 men and the Prussians lost about 25,000 including 9,000 deserters. From the French army, Vandamme’s and Gérard’s corps each lost over 20 per cent of their strength; Giraud’s division (detached from Reille’s corps) lost about 50 per cent of its strength and was left behind on the battlefield to recover while helping the wounded and gathering abandoned materiel. The other French units engaged lost about 10 per cent of their strength, and remained fully battle worthy. The two Prussian corps of Ziethen and Pirch (which had defended the salient formed by Ligny brook) suffered horrendous losses; two of their eight infantry brigades lost over 50 per cent of their strength and five more lost between 20 and 35 per cent. Most of these troops had exhausted their supplies of ammunition and were incapable of further combat until they had rested and been re-supplied. One brigade in Pirch’s corps and all of the four brigades in Thielemann’s corps had suffered less severely, losing 5–10 per cent.  

Results of the Second Day
On the second day of the campaign, 16 June, Napoleon had achieved a draw at Quatre Bras and a victory at Ligny. Although the allied armies had suffered heavier losses than the French, the difference was not sufficient to alter the balance of forces in Belgium. Napoleon would have still faced adverse odds of 1:2, unless some of the allied units had been sufficiently demoralised by their losses to put them out of action for several days.

Although Napoleon had the opportunity to win the 1815 campaign in Belgium with two decisive victories on 16 June, the opportunity was lost that day through lethargy and slipshod staff work. The key moments when mistakes were made are outlined below:

- Napoleon’s orders for continued advances by both wings, in accordance with his original plan, should have been sent out in the evening of 15 June, to reach the relevant commanders by dawn on the following day
- Soon after dawn on 16 June, Reille should have prepared his corps

12. The most comprehensive data on the losses incurred by the opposing armies at Ligny are in Hofschörer, 1815: The Waterloo Campaign. Vol. 1.; and Uffindell, The Eagle’s Last Triumph.
to move promptly into action at Quatre Bras when orders actually reached him, as they did soon after 1100. Had he made such preparations, or had his orders had arrived sooner, his corps would surely have routed the Netherlands infantry division at Quatre Bras before it could have been reinforced

- Ney and Grouchy should have ensured that both d’Erlon and Gérard had their respective army corps on the march after an early breakfast. D’Erlon could have joined Ney by mid-morning with most of his corps and they could have responded together, without mutual misunderstanding, to any orders which might come from Napoleon. Had Gérard matched the urgency of Vandamme and Reille on the previous day, his corps could have marched the 8 miles from Chatelet on the Sombre to Fleurus and deployed for action well before noon. This would have allowed Napoleon to start the Battle of Ligny at least three hours earlier than he actually did, enabling him to win a victory while there was still enough daylight for a destructive pursuit (and potentially for Blücher to be recognised and captured when he was at the mercy of the French cavalry)

- As a result of poor staff work, only four of Napoleon’s six army corps were engaged in the simultaneous battles of Ligny and Quatre Bras in the afternoon of 16 June. D’Erlon obeyed conflicting orders and marched his corps to and fro between the battlefields. Lobau’s corps, meanwhile, was left in limbo at Charleroi until mid-afternoon and consequently arrived too late to fight at Ligny.

To achieve quick victories in the opening phase of the 1815 campaign, Napoleon needed two lieutenants who understood his strategy of separating enemy armies and defeating them in successive battles and who appreciated the importance of rapid manoeuvres. That understanding should have been provided in advance by conversations with his chosen commanders, just as Nelson had famously met with his captains to discuss his plans and ensure that they were clearly understood. Instead, as already noted, Napoleon did not appoint commanders for the left and right wings of his army until the afternoon of 15 June, after the campaign had already started, thus giving them onerous responsibilities without fully appreciating their roles and without opportunity to acquaint themselves with their respective forces. Napoleon tried to explain his ‘commander’s intent’ in his 0830 letter to Ney early on 16 June but communication by letter offers no scope for feedback and clarification, and the pressures of his command responsibilities gave Ney scant opportunity to assimilate Napoleon’s strategy.

On the same day, the allied commanders survived the errors which had delayed the concentration of their two armies:

- Wellington avoided defeat at Quatre Bras by the efficient deployment
of the reinforcements, which arrived just in time to block and then
to drive back the (belated) French attack, but he failed to warn the
Prussians at Ligny that he would be unable to support them that day
• Blücher chose to fight a full-scale battle with only three-quarters of
his army on the field, rather than playing for time until Bülow could
arrive the following day. Furthermore, his selected position protected
the road linking the allied armies but exposed the Prussians on the
slopes behind Ligny and St Amand to the superior French artillery,
and the Prussians’ many expensive counter-attacks depleted their
reserves before the French Imperial Guard launched its decisive
attack.

Decision Analysis
When his campaign started, Napoleon could reasonably expect that the
opposing commanders would act according to an agreed plan and would
try to co-ordinate their manoeuvres. Hence, he anticipated that the two
commanders would follow one of the following plans:

• Plan A: Play safe by retreating, either along their respective divergent
lines of communication or towards an assembly area defending
Brussels, leaving rearguards to delay the French advance
• Plan B: Concentrate forward towards the chosen French axis of
invasion, the Charleroi–Brussels road; in this case, Napoleon could
expect that the concentration of one or both of the allied armies
would be delayed by poor staff work or logistic difficulties and thus
he could hope to defeat them in detail.

However, although the allied commanders had agreed to concentrate
forward in response to a French invasion, in reality, Wellington’s army only
began this process a day later than the Prussians due to the breakdown in
his intelligence system and to his concerns about the security of the Channel
ports (and the safety of King Louis XVIII in Ghent).

During the morning of 16 June, Napoleon had no information on where most
of the enemy armies were and what they were doing, so he had no sure way
of judging which of the above plans the allied commanders had adopted. He
could have chosen either one of two principal strategies:

• Option 1: Order his left and right wings to attack the enemy forces
opposing the advance of French troops, and send part of his reserve
to support Grouchy’s wing which appeared to be facing the larger
enemy force; this is the option he actually adopted at 0830
• Option 2: Send two additional army corps (d’Erlon and Lobau) to Ligny
and simultaneously order Ney to act defensively in order to block
the paved road from Quatre Bras to Sombreffe; this is the option he adopted (belatedly) at 1515.

The outcome of either of these options would depend on whatever plan the allied commanders had chosen. If a modern analyst, familiar with systematic methods of decision-making under uncertainty, had been magically transported back to 1815, he might have assisted Napoleon to select the most favourable option. The analyst would have arranged forecasts of the potential outcomes of the plans and options in the matrix shown below (the underlined text in the matrix shows actual outcomes).

Matrix 1: Potential Outcomes of Manoeuvres on 16 June.

<table>
<thead>
<tr>
<th>Allied Alternatives</th>
<th>Plan A: retreat</th>
<th>Plan B: concentrate forward</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French Alternatives</td>
<td>Two army corps to Quatre Bras, three to Ligny, one at Charleroi</td>
<td>Two French victories over allied rearguards</td>
</tr>
<tr>
<td><strong>Option 2:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One army corps to Quatre Bras, five to Ligny</td>
<td>French victory over Prussian rearguard, Wellington withdraws without much damage</td>
<td>Decisive French victory at Ligny, drawn battle at Quatre Bras</td>
</tr>
</tbody>
</table>

Even without allocating numerical values to each of these outcomes (as in Appendix D), it is clear that defeating one or both allied rearguards would not have significantly improved Napoleon’s chance of victory on the Waterloo campaign. Had his forces won two hard-fought battles against such allied forces as were actually concentrated at Ligny and Quatre Bras on 16 June (outcome B1), the Army of the North might have gone on to capture Brussels, but would have been too depleted to send large reinforcements to face the Austrians and Russians on the Rhine frontier.

Outcome B2 was the most favourable to the French as a concentration of their forces at Ligny could have delivered a shattering victory over the Prussians followed by a destructive pursuit. Napoleon could have seized the opportunity and adopted Option 2 early in the day, given his need for a decisive victory and the significant probability that the notoriously pugnacious Blücher had risked concentrating forward. This option risked exposing Ney’s depleted wing to defeat if Wellington’s army advanced in full strength from Quatre Bras; but Napoleon knew that Wellington’s cantonments had been widely dispersed and that his inexperienced army was unlikely to assemble a strong balanced force, sufficient to constitute a dangerous threat, until 17 June or at worst late on 16 June. Even if Ney were defeated, his talent for rearguard actions (demonstrated in Portugal and Russia) would have prevented a disaster and...
news of the defeat of Ney’s wing would have been overshadowed by the emperor’s personal triumph at Ligny. In reality, despite being outnumbered at the end of the day, Ney achieved a draw at Quatre Bras and prevented Wellington from sending any reinforcements to the Prussians.

However, in reality, Napoleon underrated the allies’ willingness to fight, and throughout the morning of 16 June he remained convinced that they were retreating behind rearguards, in which case Option 1 seemed more favourable and had the additional benefit of not delaying his advance on Brussels. Accordingly, he adopted Option 1 at 0830. His mid-afternoon switch to Option 2 proved to be very damaging, keeping d’Erlon’s corps out of action on either of the battlefields, and delaying the decisive French attack at Ligny. It reflects no credit on Napoleon’s management of his army that the French were outnumbered at both points of contact on 16 June.
V. The Third Day, 17 June

After the Battles of Quatre Bras and Ligny, the armies desperately needed something to drink and a night’s sleep to recover from the physical and psychological strains of several hours of battle, preceded for many units by even more hours of hard marching. The Prussian troops retreating from Ligny also had the overriding priority of escaping from the victorious French. During the battle a substantial number of Prussians, either unmotivated conscripts or soldiers traumatised by the experience of combat, had fled eastward along the road to Namur and Liège. Most of the Prussian troops retreated in disorder towards Tilly and Wavre, covered by valiant rearguards.

Napoleon’s Options after Ligny
On the morning of 17 June, Napoleon knew that the three Prussian corps that he had faced at Ligny were fleeing east and/or north, and that they would probably soon be joined by Bülow’s corps approaching from Liège. Since Thielemann’s corps has been only lightly engaged at Ligny, the combined force would have at least 50,000 Prussians fit to fight but their location and intentions were unknown. Napoleon also knew that there had been a substantial part of Wellington’s army at Quatre Bras on the previous day (its strength was unknown because Ney’s overnight report had been brief and vague, but it must have exceeded 20,000 to withstand Ney’s attacks). That morning Napoleon could have:

- Launched a devastating pursuit of the remains of the Prussian army using the French forces then under his command, leaving Ney’s wing of two army corps to contain the Duke of Wellington’s gathering army
- Detached some troops to shadow the retreating Prussians, marched the rest to Quatre Bras to join Ney, and advanced on Brussels, defeating Wellington’s heterogeneous army if it opposed the French advance.

The first option was unattractive because the Prussians already had several hours’ start (plus a few more until French cavalry patrols could find and report the position of the main Prussian force) and could not easily be overtaken. Furthermore, it seemed likely that the Prussians would retreat eastward along their line of supply, and pursuit in that direction would divert Napoleon away from his primary political objective, the capture of Brussels.

The second option was more promising. It would yield another victory either if Wellington’s army remained in its vulnerable position at Quatre Bras or if it retreated and could be effectively attacked en route. In either case, this option could enable the French to capture Brussels within the next few days. However, this option required Napoleon to decide on the scale of
the detachment sent to shadow the Prussians and where that detachment should be directed.

**Napoleon’s Delay and the Later Pursuit of Wellington**

Whichever of these options was chosen, it should have been implemented as early as possible. Despite the need for haste, Napoleon dallied. Perhaps he felt ill, perhaps he was physically exhausted by the previous two days campaigning and by the onerous administrative tasks in the preceding weeks, or perhaps he optimistically assumed that the Prussians were out of action and Wellington was already retreating to the coast; if both of these suppositions were true, Brussels was virtually in his grasp and his campaign had already succeeded. At dawn, Napoleon sent cavalry patrols eastward to find the retreating Prussians and by 0700 they had reported that many Prussians were fleeing in disorder towards Namur (had similarly zealous cavalry patrols been sent northward, they would have located even more Prussians en route to Wavre). Soon afterwards, he received a report that some part of Wellington’s army had remained in occupation of Quatre Bras overnight. At 0800, he ordered Ney to attack and occupy Quatre Bras if it were held only by a rearguard (but since Ney knew that it was strongly held, he took no action). This order to Ney lacked urgency, suggesting that 17 June could be devoted to rallying stragglers and re-supplying the French troops which had marched and fought hard over the past two days.

It is quite possible that Napoleon was mentally drained by the nervous strain of his ‘mission impossible’ campaign against heavy odds, and was chronically frustrated by the multiple blunders of his staff and subordinates over the preceding two days. In this mental state, analogous to battle fatigue, he would have shunned major decisions and preferred familiar and undemanding ‘displacement activities’, touring the battlefield of Ligny and praising his victorious troops. It is also possible that Napoleon was suffering from a glandular disease, acromegaly, which has symptoms (excessive optimism, inattention to detail, intermittent torpor) which correlate with his observed behaviour during the Waterloo campaign. Whatever the reasons for his delay, the waste of several hours of daylight at this crucial stage of the campaign was another important contributory factor to his ultimate defeat.

Napoleon took no decisive action until 1100, seven hours after sunrise. He then received another report from Quatre Bras, confirming that Wellington had not yet retreated when the report was sent (about 0630 but clearly delayed en route) and offering the hope that his army might be caught and defeated in that position. Immediately, Ney was sent a direct order to

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attack. Grouchy was given about half the force around Ligny to pursue the
Prussians and prevent them from joining Wellington,\(^3\) while Napoleon set the
remainder on the march for Quatre Bras. However, by then it was too late.

At 0730, a British cavalry patrol had advised Wellington that the Prussians
had been defeated (and at 0900 a Prussian liaison officer had brought official
news), so, during the morning, Wellington had started to move his infantry
and artillery northward through Genappe to take positions at Waterloo in
the hope that some Prussian troops could join him there. When Ney received
Napoleon's 1100 order some two hours later, he did not attack immediately
(instead allowing his men to eat lunch); however, even if he had attacked
at once his troops would have encountered only Wellington's cavalry and
horse artillery which could retreat rapidly if pressed. By the time Napoleon's
reinforcements arrived at Quatre Bras about 1400, it was pouring with rain
and the French cavalry pursuit, largely restricted to the main road, could inflict
only trivial losses. Towards the end of the day, the French cavalry leading
Napoleon's pursuit discovered a large force of Wellington's army deployed
with ample artillery on a ridge 2 miles south of the village of Waterloo. After
his fruitless pursuit during the latter half of 17 June, Napoleon hoped that
his enemy would remain in position and could be defeated decisively on
the following day.

In fact, Wellington had not irrevocably decided to fight at Waterloo. Before
starting his retreat from Quatre Bras, he had advised Blücher that he would
fight a defensive battle at Waterloo only if he could be joined there by one
Prussian corps, but it was not until early on 18 June that he received the
assurance that two Prussian corps would march to Waterloo that day, with
the lead corps starting at dawn.

While Wellington was retreating to Waterloo, the three Prussian corps which
had been beaten at Ligny reassembled at Wavre and they were joined there
by Bülow's intact corps from Liège. By late afternoon, the Prussian reserve
ammunition train had been found and it had replenished the pouches and
limbers of those infantry and artillery units which had exhausted their
ammunition during the fighting at Ligny. A day-long respite from pursuit, some
rest and refreshment and Blücher's personal inspiration combined to restore
the Prussian army's morale and combat capability, and enabled Blücher to
promise that at least half of it would march to Waterloo on 18 June.

**Grouchy's Pursuit of the Prussians**
Meanwhile, Grouchy's pursuit of the Prussians had been ineffective. During
the morning, French cavalry had found a large Prussian force (Thielemann's
corps) at Gembloux, but later they failed to keep contact when Thielemann
withdrew northward during the afternoon. Grouchy had been given the two

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\(^3\) Soult argued that Grouchy's mission needed one army corps rather than two.
battle-worn army corps of Vandamme and Gérard which had fought at Ligny and two corps of reserve cavalry (all of which had originally been in his right wing). Napoleon had given him an additional infantry division detached from Lobau’s army corps which had not yet been engaged, but had detached and taken to Quatre Bras two of Grouchy’s original cavalry divisions (those of Domon and Subervie), leaving him a total of some 32,000 troops.

Grouchy had been ordered to advance northeastward to Gembloux (keeping his two army corps together) and to reconnoitre northeast towards Maastricht and southeast towards Namur. Napoleon clearly believed that the Prussian army was retreating eastward. Grouchy’s infantry only started marching at 1400, was delayed by the rainstorm and stopped for the night at Gembloux, only about 5 miles from Ligny. That evening, at 2200, Grouchy sent a message to Napoleon reporting that most of the Prussians appeared to be retreating northward towards Wavre and that he would pursue them early next day. The same evening, a French cavalry patrol from one of the divisions with Napoleon provided him directly with additional evidence that some Prussians were assembling at Wavre.

Results of the Third Day
Napoleon lost valuable time on the morning of 17 June, in defiance of his usual emphasis on speed and his maxim that ‘space we can recover, time never’. He then divided his outnumbered army, and ordered the two contingents to advance on divergent axes.

Furthermore, Napoleon’s orders to Grouchy – to pursue the Prussians along their line of retreat, to keep his force united and manoeuvre between Wellington and Blücher to prevent a union of their forces – had multiple objectives which were incompatible. To manoeuvre between the allies, Grouchy needed to be to the west of the Prussians rather than behind them. A more imaginative commander, accustomed to independent command, might have been able to devise a strategy which matched Napoleon’s best interests, but Grouchy could not and took Napoleon’s ‘pursue the Prussians’ order very literally.

During 17 June, Blücher had rallied and revived his army and Wellington had withdrawn virtually unscathed from his exposed position at Quatre Bras. The allied generals, despite being surprised by the sudden French invasion three days earlier, had avoided crippling losses and had now manoeuvred their forces close enough to one another so that they could provide mutual support; it was only 10 miles from Wavre to Waterloo, although the roads were poor.

4. A more enterprising officer would have appreciated the danger that the Prussians at Wavre might move westward against Napoleon, and would have marched most of his force at dawn to intercept them.
In response to the French invasion on the 15 June, both allied commanders had tried to unite their armies (as agreed beforehand). After the battles of Quatre Bras and Ligny, both commanders had retreated northwards (rather than along their respective lines of communication) and could unite most of their forces for a decisive battle on 18 June.

From the number of guns which had fired on his leading troops on the evening of 17 June, Napoleon concluded that Wellington’s army was prepared to fight in its chosen defensive position at Waterloo and judged that he had sufficient troops available to defeat it. In other campaigns he had called in outlying detachments to augment his forces just before a crucial battle, but on this occasion he failed to follow that custom (despite receiving advice that he should do so that evening from Soult). If he had decided late on 17 June that Waterloo was indeed the crucial arena, he could have sent overnight an urgent order commanding Grouchy to send most of his troops post haste to Waterloo, leaving only some cavalry to observe the Prussians. Had Grouchy’s troops marched from Gembloux at dawn and hurried via Mont St Guibert and Mousty, they might have reached the battlefield at Waterloo to assist a French victory or have intercepted Prussians en route from Wavre and delayed their arrival at Waterloo. In fact, Napoleon waited until 1000 on the next day before ordering Grouchy to march towards Wavre, in accordance with the plan already being implemented by Grouchy, and thus precluded the participation of all of his troops in the Battle of Waterloo.

Decision Analysis
After his victory against the Prussians at Ligny, Napoleon’s belated decision to concentrate most of his army against the other allied army (Wellington’s) was relatively straightforward; a victory over Wellington would have cleared the way for the French to capture Brussels. It was more difficult to resolve the question of what to do about the Prussian army; Napoleon did not know whether it was in retreat (either north towards Brussels or east towards Liège) or whether it was planning to attack his right flank during his march on Brussels and/or during a potential battle with Wellington. At minimum, it was necessary to send one or two divisions of light cavalry to find the Prussian army and either observe its retreat or give timely warning should it march westward.

In addition, Napoleon could choose to:

- **Option 1:** Detach and send in pursuit of the Prussians a French force strong enough to defeat the Prussian rearguards if Blücher was retreating (perhaps about two army corps and two corps of reserve cavalry)
- **Option 2:** Detach a smaller covering force (perhaps one army corps and one corps of reserve cavalry) which could move in parallel to, although some miles to the east of, the main French army’s advance on Brussels. This force could delay any Prussian move westward until after Wellington had been defeated and/or Brussels had been captured. If this covering force crossed to the west side of the River Dyle at Mousty, and marched northward along the west bank – garrisoning the bridges at Limale and Wavre if possible – the river would provide a good defensive position against any Prussian force advancing from the east. Furthermore, a covering force on the west bank of the Dyle could, if necessary, be reinforced relatively easily by detachments from the main French army moving along the road from Quatre Bras towards Brussels.

Any troops detached in order to implement one of these two options would reduce the strength of the main French army, whose objective would be to
defeat Wellington’s army should it oppose the French advance on Brussels. The outcomes of these two options would depend on the Prussians’ plan – that is, on whether they were retreating north or east, or whether they planned to advance westward to join Wellington. Napoleon’s view of the strategic situation at 1100 on 17 June, as well as the principal options available to him, are illustrated in Map 7. The potential outcomes can be illustrated in the decision matrix below (the underlined text in the matrix shows actual outcomes).

**Matrix 2: Potential Outcomes of Decisions on the Strength and Role of Grouchy’s Force.**

<table>
<thead>
<tr>
<th>Allied Alternatives</th>
<th>French Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plan A:</strong></td>
<td><strong>Option 1:</strong></td>
</tr>
<tr>
<td>Prussians retreat north or east, and consequently Wellington retreats from Waterloo</td>
<td>Strong French force to pursue the Prussians</td>
</tr>
<tr>
<td></td>
<td><strong>Option 2:</strong></td>
</tr>
<tr>
<td></td>
<td>Smaller French covering force to advance on the west bank of the Dyle</td>
</tr>
<tr>
<td><strong>Plan B:</strong></td>
<td></td>
</tr>
<tr>
<td>Prussians march west, Wellington fights at Waterloo</td>
<td>Prussian rearguard defeated but enough Prussians join Wellington at Waterloo to defeat Napoleon’s main army</td>
</tr>
<tr>
<td>Both allied rearguards harassed during their retreats</td>
<td>French covering force inactive, Wellington’s rearguard harassed in its retreat towards Brussels</td>
</tr>
<tr>
<td>Wellington fights at Waterloo with the promise of Prussian support, but the Prussians are delayed by Grouchy and Wellington is defeated by the main French army</td>
<td></td>
</tr>
</tbody>
</table>

Even without allocating numerical values to each of these outcomes, it seems clear that the worst outcome for the French is B1, in which the main French army would be substantially outnumbered at Waterloo and consequently Napoleon would probably be defeated. As the matrix shows, this was the actual outcome.

Outcome B2 was the most favourable outcome for Napoleon, offering him a better prospect of defeating Wellington while the French covering force delayed the promised Prussian support by fighting behind the Dyle or in the broken and wooded country between the Dyle and Waterloo; in this situation, the French covering force would probably not sustain heavy losses. Even if a detached force under one of Napoleon’s lieutenants were defeated, that news in a Bulletin would be entirely overshadowed by news of Napoleon’s victory at Waterloo and his triumphal entry into Brussels.
Probably Napoleon’s optimal option was to direct Lieutenant Général Count Exelmans’ reserve cavalry to lead Gérard’s corps from Ligny to Mont St Guibert and Mousty (about 13 miles) and then follow the west bank of the Dyle, while Lieutenant Général Count Pajol’s reserve cavalry scouted the area to the east of the Dyle in order to locate the Prussians and provide warning of any Prussian advance. Had Napoleon chosen this option, he would have had an additional 15,000 French infantry at Waterloo and the Prussians would have been delayed en route to Waterloo from Wavre, giving Napoleon a significant superiority of numbers and thus a greater chance of victory at Waterloo.
VI. The Fourth Day, 18 June – Prelude to Waterloo and Wavre

At dawn on 18 June, most of Wellington’s army was deployed along a ridge running from east to west just south of the village of Mont St Jean, where the roads from Charleroi and Nivelles met and continued to Brussels (see Map 8). In that position, it blocked two of Napoleon’s possible routes to Brussels. Napoleon’s main army, equally drenched by the rainstorm the previous day and overnight, was gradually assembling on a parallel ridge just less than a mile to the south of Wellington’s position.¹

All four corps of the Prussian army were bivouacked within a few miles of Wavre, ready to march westward to join Wellington at Waterloo. Grouchy’s wing of the French army was at Gembloux, 11 miles south of Wavre, and was preparing to advance in pursuit of the Prussians there.

On the morning of 18 June a dispassionate observer could have concluded that Napoleon had almost irrevocably lost his 1815 campaign. His army had inflicted more losses than it had suffered, but it still faced roughly the same adverse odds of 1:2 as it has faced at the start of the campaign. The opposing allied armies had not been driven apart; indeed, they were now closer together than his own forces and could soon unite on what promised to be the decisive battlefield at Waterloo. However, it remained just possible that Napoleon could defeat Wellington’s heterogeneous and largely inexperienced army before the Prussians arrived in support.

Map 10 shows the strategic situation as perceived by Wellington at 1000 on the morning of 18 June, before Napoleon’s first attack and before the first contact between British and Prussian cavalry patrols. It illustrates that Wellington feared being outflanked to the west, as well as his expectation that the Prussians, having started from Wavre at dawn as Blücher had promised, must now be close to the eastern edge of the battlefield (near Ohain or the Bois de Paris). In fact, at that time, the leading elements of Bülow’s army corps were several miles further east. Map 9 shows Napoleon’s perception that the Prussians at Wavre would probably retreat to the north or east rather than coming to support Wellington at Waterloo.

¹. Although the rain on the afternoon and evening of 17 June had poured indiscriminately on the armies of Wellington and Napoleon, the experience was more arduous for the French and most of them did not reach their bivouacs until after dark when it was more difficult to locate any food, firewood or drinkable water.
Napoleon’s Options
Napoleon needed to decide how to attack Wellington’s army facing him at Waterloo. He could choose to either:

- Make a frontal attack
- Send a flanking force to threaten envelopment, and then smash the disrupted enemy army as it tried to redeploy or retreat.

The enveloping attack was one of Napoleon’s favourite tactics and had yielded many victories in his earlier campaigns, but that day Napoleon guessed that he was outnumbered by Wellington’s whole army and he knew that an enveloping manoeuvre would be slowed by the sodden ground (in reality, he actually had a slight superiority of numbers because Wellington had left a substantial detachment of 17,000 troops at Hal, blocking the road from Mons to Brussels). Furthermore, Napoleon needed a decisive victory rather than a manoeuvre from which his enemy might retreat without serious losses, so he preferred to make a direct attack.

Similarly, Napoleon could decide to:

- Attack as soon as most of his troops were assembled
- Delay the main attack until the afternoon.
Map 9: Napoleon’s View at 1000, 18 June.

Map 10: Wellington’s View at 1000, 18 June.
He chose to delay, ostensibly because the ground was too wet to manoeuvre artillery easily and to use ricochet fire effectively; in fact, Wellington’s standard policy of deploying most of his troops on the reverse slope of a ridge reduced considerably the effectiveness of artillery used against them (several of the French generals present had already encountered this tactic, but Napoleon himself had not and may have failed to appreciate that his artillery would be less omnipotent than usual). Besides the problem of boggy ground, the French army had straggled during the rainstorm (as its less disciplined soldiers sought temporary shelter) and assembled only slowly during the morning of 18 June. Whatever his reasons, Napoleon’s delay that morning (as on the previous morning) violated his own maxims on the supreme value of time.

Furthermore, there had been two reports late on the previous evening of Prussians assembling at Wavre, and Napoleon needed to decide whether there was a serious threat that a substantial contingent might march westward from Wavre to support Wellington at Waterloo. Napoleon probably hoped that those Prussian troops which had been defeated at Ligny two days earlier were not yet capable of aggressive operations, but he should have remembered from his experiences in 1814 that Blücher and the Prussians had never been discouraged by defeat. If the Prussians were really at Wavre and if they planned to support Wellington, they might arrive at Waterloo during the morning. Grouchy’s wing, assembled at Gembloux, was much farther away and was intending to march north towards Wavre, rather than northwest towards Waterloo (see Map 8). At this point it was already too late to summon Grouchy; a dispatch sent at dawn would not have reached him till about 0800 and he would probably not have reached Waterloo much before dark (it actually took him most of the day to cover the shorter distance, over better roads, to Wavre).

When Grouchy heard artillery fire from the direction of Waterloo shortly before noon, and was urged by Gérard to march to the sound of guns, he insisted on following Napoleon’s earlier order to pursue the Prussians. The order sent by Napoleon at 1000 that morning telling Grouchy that he should ‘head for Wavre in order to draw near to us’ was already en route, but by the time it arrived it was irrelevant.

Had Napoleon early on 18 June admitted the possibility of a Prussian threat to his eastern flank, he could have taken action to mitigate that risk. He could have sent out cavalry and horse artillery at first light along the roads towards Wavre to locate and delay any Prussians marching towards Waterloo. If the

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3. This task should have been given to some of Kellerman’s dragoons, because their musketoons were more suitable for skirmishing than the carbines carried by light cavalry.
Prussians were found to be advancing from Wavre, the French cavalry would meet them halfway, harass their advance and give Napoleon timely warning. If instead the Prussians were retreating on Brussels and the French cavalry found the roads empty, most of them could have returned to Waterloo before the main battle began. Furthermore, Napoleon could have assigned some engineers to obstruct the roads from Wavre (by judicious demolition and tree-felling) in order to delay any potential Prussian advance form that direction.4

In fact, it was only at 1030 that Napoleon sent a single regiment of hussars to reconnoitre the Lasne valley; at 1300 they intercepted a messenger from Bülow to Wellington, revealing the imminent threat to Napoleon’s eastern flank, but they did not engage the leading Prussian units of Bülow’s corps until they had made the difficult crossing of the River Lasne and reached the Bois de Paris.

Blücher’s Options
Blücher needed to decide the order of march of his army from Wavre to Waterloo. He had no good information on the location of the French forces; he could guess, since his own army had not been closely pursued on 17 June, that most of the French army was threatening Wellington and he had been told that there was a detachment of 20,000 French (actually 32,000) at Gembloux. In any case, it made good sense to unite the allied armies, and for the march to be led by one of his less damaged corps in case it encountered the French and had to fight. For this, he could have chosen either:

- Thielemann’s corps, which had lost 8 per cent of its strength at Ligny and had been disorganised by the subsequent retreat, but which was camped on the west bank of the River Dyle with a shorter march to Waterloo than the other Prussian corps
- Bülow’s corps, which had not been engaged at Ligny but had marched some 40 miles in the past two days, and which was camped at Don-le-Mont (3 miles east of Wavre) and was therefore furthest away from Waterloo.

For whatever reasons (some perhaps linked to the prestige and seniority of Bülow), Blücher chose his tired but intact corps to lead the Prussian column. Bülow’s corps started at 0400, but its passage through Wavre was slowed by the town's bridge and narrow streets (and by an accidental house fire which temporarily precluded the passage of troops and particularly of ammunition wagons). It took this corps over 12 hours to cover 12 miles (parts of the road were knee deep in mud), and it eventually went into action at Waterloo at

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4. In 1777, such methods reduced the southward march of Burgoyne’s British Army to only 1 mile per day. See William Seymour, Yours to Reason Why: Decision in Battle (London: Book Club Associates, 1982), pp. 95–96.
about 1630. Thielemann’s corps, having less distance to cover and having no need to pass through Wavre, could probably have reached the Waterloo battlefield before noon.

**Wellington’s Options**

Having secured a Prussian promise of support and therefore decided to fight a defensive battle at Waterloo, Wellington had the options of:

- Concentrating his entire army along the Mont St Jean ridge, anticipating a frontal attack on that position
- Deploying detachments on one or both flanks, to counter the risk that Napoleon might make a flank march to east or west of the Mont St John position; such a manoeuvre might have disrupted Wellington’s inexperienced army as it struggled to redeploy, thereby forcing it to fight at a disadvantage.

In view of the danger from a French flank march, Wellington placed an all-arms detachment of 17,000 (equivalent to a French army corps) about 9 miles west of Waterloo (see Map 8). In its allocated position around Hal, this force blocked the road from Mons to Brussels and was in position to obstruct any outflanking manoeuvre by the French. Wellington made no comparable detachment to cover his eastern flank, where the terrain was unsuitable for a rapid French flank march; furthermore, he probably considered that this eastern flank was effectively secured by the Prussians on the march from Wavre.

It must be remembered that when Wellington deployed his forces late on 17 June he did not know where all of the French army was; he knew only that some part of it had pursued his own army along the Brussels road earlier that day, and he could infer that another part would be harassing the retreating Prussians. Even on the morning of 18 June, when he could see a large part of the French Army of the North facing his position at Waterloo, there were about two French army corps unaccounted for. Today, historians know that they were all with Grouchy at Gembloux, but Wellington did not know that and did not dare to assume that there were no French forces coming from the south on the Mons–Brussels road to threaten Brussels and to cut his army’s lines of communication to the Channel ports. The detachment at Hal was strong enough to stop a single outflanking French army corps (or to delay two) and, in the event of the Anglo-Dutch-German army being defeated at Waterloo, the force at Hal could, if necessary, have covered the

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5. Wellington’s focus on securing his army’s line of retreat to the Channel ports was probably based not only on the British government’s orders to protect those ports but also on his own formative experience in 1794–95, as lieutenant colonel of the 33rd Regiment, retreating from Antwerp to Bremen under the persistent danger of being driven into the sea by the victorious French.
retreat of the British elements to the coast. The troops at Hal were thus an
insurance premium to mitigate the effects of two potential dangers: a French
flank march and a successful French attack on the Waterloo position.

Having made this strategic decision, Wellington had to make myriad tactical
decisions on the deployment of his main army. He interspersed his reliable
and less reliable units, so that if one of the latter fled under pressure its
example would not be contagious. He placed some small detachments in the
chateau of Hougoumont in front of his right, in the farm buildings of La Haye
Sainte and the neighbouring sandpit in front of his centre, and in the villages
(Papellotte, La Haye and Smohain) in front of his extreme left. As long as
these outposts could be held, they would disrupt and constrain any French
attack. In his main line, Wellington placed fourteen infantry and six cavalry
brigades west of the Brussels road, conventionally regarded as the centre
of his position. To the east of the road he placed only seven infantry and
four cavalry brigades (the latter including the 2nd Netherlands and 5th British
Divisions which had been heavily engaged and depleted at Quatre Bras). It
seems likely that Wellington was confident that two Prussian army corps
would soon arrive to support the relatively vulnerable eastern segment of
his line of battle.
VII. The Battle of Waterloo

The Battle of Waterloo is conventionally divided into seven segments, though in reality there are many overlaps in time and space, and innumerable minor actions undertaken within that framework. For most of the participants, the battle would have been experienced as a kaleidoscope of noise and smoke, with intervals of terror and exhilaration. The seven segments are as follows:

- Attacks by parts of Reille’s corps on the chateau of Hougoumont
- The main attack by d’Erlon’s corps on Wellington’s left wing
- French cavalry attacks
- Prussian attacks on the village of Plancenoit
- The French capture of the farm of La Haye Sainte
- An attack on Wellington’s position by part of the French Imperial Guard
- Wellington’s counterattack.

During the battle, the opposing commanders, generals and field officers made a multitude of tactical decisions, too numerous to be considered in this analysis. Instead, this chapter will provide only a review of the principal events of the battle and consider the reasons for the commanders’ decisions.

Hougoumont

The Battle of Waterloo began about 1120 when French troops advanced on the chateau of Hougoumont, which was originally garrisoned by some 1,200 troops, mostly Germans from Nassau and Hanover. The French soon discovered to their surprise and dismay that Hougoumont constituted a formidable defensive position. The chateau itself stood in an enclosed courtyard surrounded by walls and farm buildings. On the west of the courtyard there was a kitchen garden protected by hedges. To the east and south of the courtyard there was a formal garden, bounded by brick walls seven feet high on its eastern and southern edges (the directions from which French attacks would come). Outside these two walls were a ‘great orchard’ and a wood, respectively. The attacking French troops thus faced multiple layers of defences – the wood and orchard, the garden wall, the chateau courtyard and the chateau itself – but on the morning of the battle the strength of the position was hidden by the surrounding trees. These trees also largely screened the chateau from observation by French artillery.

Napoleon had decided, as a prelude to his main attack scheduled for 1300, to make a limited attack on Hougoumont, hoping to attract some of Wellington’s reserves away from his main position. A French brigade from the division under the command of Napoleon’s younger brother, Prince

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Jérôme, soon cleared the wood and great orchard, but was stopped by the brick wall of the formal garden (through which the defenders had hacked loop-holes). The French tried to storm the wall, fighting hand to hand with the defending troops which were outnumbered but had all the advantages of position. The French could neither breach nor scale the wall and were beaten back with heavy losses. Discouraged and depleted, they were driven back out of the orchard and part of the wood by British counter-attacks. Jérôme sent in his second brigade at about 1230; it recaptured the wood but again failed to overrun the wall round the formal garden. One exceptionally aggressive party swept round the west of the chateau, broke open the north gate and charged into the courtyard. However, the British Guards now in the chateau closed the gate by brute strength and annihilated the French intruders (sparing only a drummer boy). At about 1300, Wellington sent in more British Guards, raising the garrison to 1,800 troops. Général Reille then compounded the escalating folly by sending in additional troops but Wellington countered by sending another battalion of Guards to reinforce the defenders. During the afternoon, French howitzers set fire to the chateau and some outbuildings, but the garrison remained resolute and fought on in the garden and the other buildings. By the end of the afternoon, Wellington had committed some 2,600 troops to withstand – thanks in part to their excellent defensive position and considerable artillery support – some 10,000 French. This is exactly the reverse of what Napoleon had intended, though of course neither commander was aware of the exact ratio of forces committed. For the rest of the day these forces attacked and counter-attacked, without great change to their position.

Meanwhile, on the French right, Napoleon was preparing his main attack in which d’Erlon’s corps, supported by cavalry and a heavy artillery bombardment, would assault Wellington’s left wing, east of the Brussels road. Just before 1300 Napoleon’s eagle eye observed troops to the east, on the high ground at Chapelle St Lambert. Soon afterwards, a captured messenger revealed that the troops belonged to Bülow’s corps (numbering approximately 30,000 troops) en route to attack Napoleon’s eastern flank.

**Napoleon’s Options after Sighting the Prussians**

After the Prussian threat had been identified, Napoleon’s two available options were to:

- Break off the battle and retire towards Charleroi, tacitly accepting the failure of the campaign in Belgium
- Delay or block the Prussian advance from the east, and thus obtain sufficient time to defeat Wellington’s army.

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2. Depending on the contemporary sightlines, the visible Prussians may have been at the nearby Chapelle St Robert.
The option of retreat was unattractive because it would demoralise the army, revitalise anti-Napoleonic (that is, royalist and republican) sentiment throughout France (most dangerously in Paris), and condemn Napoleon to the defensive strategy which he had already rejected. Napoleon characteristically chose the second option, which entailed greater risk but also promised much greater rewards if successful. He immediately assigned Lobau’s weak corps and two light cavalry divisions, later reinforced by part of the Imperial Guard, to confront and block the Prussian advance. From that point, the battle was, in effect, divided into two: a northern part and an eastern part. The table below shows the number of combat troops allocated to these two parts by the end of the day.

**Table 4:** Allocation of French and Allied Troops to Adjoining Sectors of the Battle of Waterloo.

<table>
<thead>
<tr>
<th></th>
<th>Northern</th>
<th>Eastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wellington’s army</td>
<td>72,000</td>
<td></td>
</tr>
<tr>
<td>Prussians</td>
<td>4,000</td>
<td>37,000</td>
</tr>
<tr>
<td>French</td>
<td>57,000</td>
<td>16,000</td>
</tr>
</tbody>
</table>


Although the Prussians only deployed their full strength towards the very end of the battle, this table shows that the French were significantly outnumbered all afternoon in the northern sector, and later also in the eastern sector, and would have needed exceptional bravery and skill to win against such odds.

It is arguable that Napoleon’s redeployment of Lobau’s corps at 1300 was premature, and took that corps out of action for some critical hours. Before the Prussians actually engaged it at about 1630, Lobau’s corps could have, for example, supported d’Erlon’s attack on Wellington’s left wing or Ney’s subsequent cavalry attacks. Lobau might, by deploying further to the east and skirmishing in the Bois de Paris, have delayed the Prussians’ advance for some extra hours. However, at this stage both Napoleon and Lobau had only limited information; it appears that, through a remarkable failure of French cavalry reconnaissance, neither had a clear idea of how far the leading Prussian troops had already advanced, since those visible might or might not be the head of the column.

**D’Erlon’s Attack**

At about 1300 a grand battery (eighty guns) of French artillery opened fire to prepare the way for Napoleon’s main attack. The artillery fire was less effective than Napoleon had expected, partly because (as already noted) Wellington had posted most of his troops on the reverse slope of the ridge.
through Mont St Jean, and partly because the soft ground made both shot and shell less lethal than usual. After half an hour’s bombardment, d’Erlon’s army corps advanced to assault Wellington’s left wing, with four divisions of infantry screened on the left by a brigade of heavy cavalry (cuirassiers) and on the right by two brigades of light cavalry, constituting a grand total of 17,000 infantry and 2,400 cavalry. Rather than advancing in one of the usual French infantry formations (see Appendix A), d’Erlon chose to send most of his divisions forward in an array of divisional columns, each divisional column having its battalions in line, deployed one behind the other; the resulting divisional masses had a frontage of some 150 men and a depth of up to twenty-seven, making them hideously vulnerable to artillery.

As they advanced, d’Erlon’s divisional columns endured losses inflicted by Wellington’s artillery and skirmishers, and were increasingly disordered by the muddy ground. Nevertheless, they pressed on up the slope. On the left flank the cuirassiers destroyed a Hanoverian battalion near the farmhouse of La Haye Sainte and charged on towards the ridge; and one French infantry brigade stopped to besiege La Haye Sainte. On the other flank of the assault, another brigade veered east to attack the villages of Papelotte and La Haye and a third lagged behind the main attack. As the remaining five French brigades reached the ridge, they drove back a Netherlands brigade in disorder but were engaged in a firefight and brought to a standstill by two brigades of the British 5th Division. The French infantry was more numerous (11,000 men against 3,600) but on both sides only the first two ranks could fire effectively.

Before the French could exploit their superiority of numbers, they were charged by the Household and Union brigades of British heavy cavalry (together totalling 2,600 men). The Household Brigade, charging downhill, routed the French cuirassiers, which were outnumbered and disordered by their previous combat with infantry, and swept past both sides of La Haye Sainte. The Union Brigade passed through the ranks of the British infantry and charged head on into the French infantry, which had by then reached the ridge. The French infantry had already taken heavy losses to cannon and musketry; they had been disordered by crossing the hedge along the ridge; and their clumsy formation made it impractical to form battalion squares in order to resist the British cavalry. About 5,000 of d’Erlon’s army

3. Wellington’s characteristic tactic of deploying his infantry on a reverse slope was not imitated by his contemporaries or his successors. Later nineteenth-century armies chose to exploit the greater firepower of rifled muskets by deploying their infantry on crests – at Solferino (1859), Gettysburg (1863), Königgrätz (1866) and St Privat (1870) – and tolerating the casualties from enemy artillery fire.

4. Since it was vitally important to Napoleon that this attack succeed, he might have given it well-synchronised support from even more cavalry; cavalry regiments could have advanced between the infantry columns to silence the allied artillery and pose a dual threat to the allied infantry.
corps were killed, wounded or captured; two of the leading regiments lost
their eagles; and two batteries of French artillery were caught up in the
rout and completely wrecked. Only the easternmost division of d’Erlon’s
corps (Durutte’s) escaped without serious losses, and the others were not
completely rallied until late in the afternoon.

Most of the British cavalry now swept across the valley in increasing disorder
and overran the French grand battery which had supported d’Erlon’s advance,
silencing the battery temporarily and killing some of its gunners and horses.
However, Napoleon then mounted a devastating counter-attack, with two
brigades of French cuirassiers attacking the British cavalry from the front and
a brigade of lancers attacking from the flank. The two British heavy cavalry
brigades lost about half of their strength, with many more temporarily
missing from the ranks, so that they were, in effect, out of action for the rest
of the day. As the British cavalry retreated, French infantry led by Ney made
another unsuccessful attempt to capture La Haye Sainte.

Napoleon’s Options after the Repulse of d’Erlon’s Attack
At this point, Napoleon must have recognised that he was unlikely to achieve
a victory. After the Prussians had appeared to the east, thereby threatening
his right flank, he had reduced his assessment of the chance of a French
victory from 90 per cent to 60 per cent; the utter failure of d’Erlon’s attack
must have made his chance of victory considerably smaller. Of the eighteen
line-infantry brigades deployed by Napoleon at the start of the battle:

- Four had been deployed eastward to face the Prussians
- Four were bogged down in front of Hougoumont and La Haye Sainte
- Five were temporarily disorganised after being routed by British
cavalry and their strength and morale had been significantly depleted.

This left only five brigades, of which three were in the left centre and
two were on the extreme right, and so the French forces which remained
available to attack Wellington were thus imbalanced as well as being seriously
deficient in infantry. Napoleon could only launch another corps-level attack
by committing the Imperial Guard. By contrast, Wellington had committed
only a few infantry battalions to defend the outposts to his line of battle, and
thus far had suffered fewer losses.

In this bad situation, and with his main attack having failed, Napoleon had to
decide between several unattractive options:

- Retreat to rejoin Grouchy and defend the frontiers of France
- Continue, while d’Erlon’s corps rallied, to erode Wellington’s army
  by skirmishing, undertaking limited attacks and bombardment (the

French still had a larger number of guns in this northern part of the battlefield) in the hope that its morale would break before the Prussians arrived in strength

- Attack with the Imperial Guard, supported by heavy cavalry, in imitation of the decisive thrust at Ligny but with the crucial difference that at Waterloo Wellington still had ample uncommitted reserves
- Try the shock effect of a charge by heavy cavalry (as against the Austrians at the Battle of Marengo in June 1800 and against the Russians at the Battle of Eylau in February 1807) in the hope that the sight and sound of massed horsemen would intimidate and panic at least some of Wellington’s less experienced troops.

**French Cavalry Attacks**

In practice, Napoleon’s choice between these options was probably preempted by Ney, who may have interpreted some movements in Wellington’s smoke-shrouded line of battle (largely screened by the Mont St Jean ridge) as the start of a withdrawal. Accordingly, at about 1600 he sent forward Milhaud’s corps of reserve cavalry (all cuirassiers) to turn Wellington’s presumed retreat into a rout. The cuirassiers were followed (possibly accidentally) by the light cavalry division of the Imperial Guard so a total of 4,500 cavalry attacked the centre of Wellington’s line between Hougoumont and La Haye Sainte. This charge by thousands of gorgeously uniformed cavalrymen forms yet another iconic event in the battle, but it was singularly unsuccessful. The allied infantry battalions in the attacked sector could see and hear the charge coming in time to form squares; the allied artillerymen fired destructively at the French cavalry as it approached, and then fled for sanctuary within the nearest infantry square.

According to French cavalry doctrine, any charge by a reserve cavalry corps should have been supported by its horse-artillery batteries, which could then defend a captured position or could fire canister at any enemy infantry squares which had withstood the cavalry charge. The latter operation demanded skilful co-ordination in space and time between the cavalry and artillery but when that co-ordination was successfully achieved (notably against the Russians at Borodino in September 1812 and against the Austrians at Dresden in August 1813), the enemy infantry suffered heavy losses, if not annihilation. It is unclear how many horse-artillery batteries actually supported the French cavalry charges at Waterloo, but it is known that several had been detached from their parent corps earlier in the battle, and they may not have rejoined by 1600. It appears that some horse artillery did support the French cavalry charges but the guns involved were insufficient to break any infantry squares (though a few squares suffered grievously). Any supporting horse artillery must have found it difficult to operate effectively,

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because of the muddy ground and because of the congestion around the allied infantry squares.

When the first charge failed, Napoleon reinforced the attack by committing Kellerman’s reserve cavalry corps and the heavy cavalry of the Imperial Guard (another 4,500 cavalry). Over a period of two hours, the French cavalry mounted a series of attacks on that part of Wellington’s army deployed west of the Brussels road. Each successive charge was disrupted and depleted by artillery and infantry fire, poured around the allied infantry squares (which were virtually invulnerable to cavalry provided that they maintained formation), and was then driven into retreat by counter-charges by (some of) Wellington’s cavalry. The later French cavalry attacks were impeded by numerous dead horses and by the increasingly churned-up ground. Individual French units tried in vain to disrupt the allied squares using carbine fire or thrown lances.

Crucially, the French cavalry commanders failed to organise any significant damage to the abandoned allied artillery. Ideally, they should have spiked the cannon and/or carried off the rammers. Admittedly, any such activities would have required cavalrymen to dismount in a fluid and dangerous situation, which was an unappealing option. Napoleon and Ney also failed to send forward French infantry to fire on the vulnerable allied squares; it was only at 1800, by which time the French cavalry was exhausted, that three brigades of Reille’s corps advanced to attack the same area. Being heavily outnumbered, this attack was easily repulsed.

Because historians know, with the benefit of hindsight, that the massed charges by French cavalry did not actually do much damage to Wellington’s army, the possibility that they might have been decisive is generally dismissed. However, since such charges had often routed inexperienced troops in earlier Napoleonic battles, it was credible that they might have succeeded on this occasion. However, once the initial charge had failed and Wellington’s infantry had gained confidence from that failure, it is difficult to understand why Napoleon persisted with fruitless and costly attacks by unsupported cavalry.7

Prussian Attacks on Plancenoit
Bülow’s Prussian corps had a long and difficult march from Dion-le-Mont through Wavre to Waterloo. Its road from Wavre towards the battlefield was atrocious even by the low standards of the period. It was a muddy, rutted lane, sometimes passing through thick woods and cramped villages and sometimes up and down steep gradients, particularly in the valley of the swollen Lasne river. These circumstances forced Bülow’s corps to advance

7. Through many centuries, French cavalry have displayed similar persistent but fruitless gallantry, from Crécy in 1346 to Sedan in 1870.
slowly and in an inevitably elongated column, such that when the lead units stopped for an hour’s rest at Chapelle St Lambert, the rearmost units were still close to Wavre, 6 miles away. During the morning, before the Battle of Waterloo began, the leading Prussian cavalry had encountered British cavalry pickets and, thereafter, Wellington could be certain that reinforcements were on the way (although he could be less sure of their actual progress). The last 3 miles of the march, across the steep valley of the Lasne and through the Bois de Paris, were particularly slow and difficult. During this part of their march, the Prussians could hear the thunder of cannon ahead, suggesting that a major battle was in progress, but they had to balance the evident need for haste against the equally important need to keep their forces well organised and battle worthy. Fortunately, the Prussians encountered no significant opposition until their leading units emerged from the Bois de Paris wood and were confronted by Lobau’s French corps.

At this point, the Prussian commanders could see Wellington’s distant line of battle apparently being overwhelmed by masses of French cavalry. This situation appeared critical, so they attacked at 1630 with Bülow’s two leading brigades. Initially, the opposing forces were almost equal, but the subsequent arrival of Bülow’s two other brigades gave him superiority of numbers and allowed him to push the French back. Shortly before 1800, the Prussians captured Plancenoit against determined resistance, and their artillery was able to fire on the Charleroi–Brussels road. Napoleon could not ignore this threat to his right flank, and sent eight battalions of the Young Guard as reinforcements. They recovered Plancenoit temporarily, but the reinforced Prussians returned to the attack and captured the village for the second time at 1915. Soon afterwards, a French counter-attack, spearheaded by two battalions of the Old Guard, retook the village and held it until the end of the battle, when most of the rest of the French army collapsed.

The French Capture of La Haye Sainte
Soon after 1800, an allied blunder gave the French renewed hope of victory. The defenders of La Haye Sainte (mostly King’s German Legion – a British Army unit of expatriate German personnel – armed with rifles) ran out of ammunition just as Ney mounted yet another infantry attack on the farm (the fourth that day). This time, the French infantry captured the farm buildings and the neighbouring sandpit, and its accompanying cuirassiers destroyed a Hanoverian battalion which tried to reinforce the farm. Now Ney brought up two batteries of the elite Imperial Guard horse artillery to fire on the allied line of battle at devastatingly close range, inflicting 66 per cent losses on a vulnerable British battalion (the 1/27th).

The French tried but failed to advance further and at about 1830 Ney asked Napoleon for reinforcements. However, Napoleon’s attention was now focused on the struggle for Plancenoit, which had by then been captured
for the first time by the Prussians, creating a serious threat to his right flank. He decided (as noted above) to send eight battalions of the Young Guard and later two battalions of the Old Guard to join the fight for possession of the village. Thus, for over an hour, while the spearhead of Ney’s attack lost momentum and was whittled away by converging fire, Napoleon’s attention was elsewhere and the remaining battalions of the Imperial Guard remained in reserve.

The Attack of the French Imperial Guard
An hour later, after Plancenoit had been recaptured and the right flank had thus been temporarily secured, Napoleon concluded that his last hope was that the remainder of his Imperial Guard could smash its way through Wellington’s tired and depleted line of battle. At this stage, an orderly French retreat was no longer practicable, since there was now insufficient cavalry to hold off an allied pursuit. So, at 1930 Napoleon sent five battalions of the Middle Guard (about 3,000 troops) to attack the allied line west of the Brussels road, supported by the remaining effective units of d’Erlon’s and Reille’s army corps. Unfortunately for the Middle Guard, it had virtually no cavalry support and so it had to advance in square (apparently nobody thought to redeploy the lancer brigade of Reille’s corps cavalry from the extreme left wing to support this final, desperate attack). Three Old Guard battalions advanced in support, but Napoleon retained in reserve another three Guard battalions which were present on the battlefield but uncommitted.  

Despite its clumsy formation, the Middle Guard advanced in good order, drove back some allied units and overran a battery. However, it was ultimately defeated by an equal number of British troops, supported by as many more in a fresh Netherlands division which Wellington had moved from his extreme right to reinforce his centre after the loss of La Haye Sainte. As the rest of the French army saw the elite Imperial Guard retreating, its soldiers lost hope and dissolved in flight, except for a few exceptionally well-disciplined units.

Wellington’s Counter-Attack
The French collapse was accelerated by the counter-attack made by all but the most depleted and exhausted units of Wellington’s army, and by the continual pressure imposed by an ever-increasing number of Prussians arriving from the east. The Prussian cavalry assumed responsibility for the pursuit of the beaten French army as it fled southward from the battlefield. The Prussians captured guns, treasure and baggage in the bottleneck at Genappe, and hounded the fugitives onward towards Charleroi.

The Battle of Wavre
When the rest of the Prussian army marched off towards Waterloo on the morning of 18 June, Thielemann’s corps was originally ordered to follow and

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8. One battalion had been left to the rear, to guard Napoleon’s baggage and treasury.
act as the army’s rearguard. However, in the afternoon, strong French forces appeared on the eastern side of the River Dyle, which was then unfordable because of the heavy rain on the previous day, and Thielemann decided to hold the line of the river by defending the bridges at Wavre and elsewhere. Thielemann had only about 16,000 men, because one of his brigades had mistakenly followed the rest of the Prussian army, with which to face Grouchy’s 32,000, but only part of the latter was sent into action that day. The French attacked throughout the late afternoon and evening, but their attacks at and around Wavre made little progress. In the late evening, the French were able to seize a bridge at Limi, allowing Gérard’s corps to cross onto the west bank. The following morning, Grouchy defeated the Prussians opposing him and forced Thielemann to retreat towards Louvain, each side having lost some 2,500 men during the two-day battle. However at about 1030, as Grouchy was preparing to march on Brussels, he heard the news of Napoleon’s defeat at Waterloo, and realised that his force was isolated and in serious danger. Accordingly, he directed a skilful retreat via Gembloux and Namur back to France.

The outcome of the Battle of Wavre had virtually no impact on the Waterloo campaign, thanks to Gneisenau’s judicious refusal to reverse the march of any of the other Prussian corps when he heard that Thielemann was in danger. However, it does demonstrate that the Dyle constituted a good defensive barrier and that a detachment on the west bank could impose a substantial delay on a superior force attacking from the east. Thus, had Napoleon on the morning of 17 June (see Chapter V) directed Grouchy to occupy the west bank after marching northwest from Ligny, he would have had a better chance of victory at Waterloo.

**Results of the Fourth Day**

During 18 June, each of the three contending armies was tested to the limits of its fortitude. Wellington’s largely inexperienced army had withstood the shock and awe of a nineteenth-century battlefield, standing its ground against repeated attacks (the only unit that fled was an inexperienced regiment of Hanoverian hussars). Blücher’s army had endured over the long marches of the preceding days and had recovered from the trauma of defeat at Ligny sufficiently to struggle through the steep and muddy tracks en route to Waterloo, and had arrived in time to make a vital contribution to the allied victory. The French had again and again attacked Wellington’s chosen strong position without any significant successes to encourage them, and around Plancenoit they had resisted successive attacks from ever-larger numbers of Prussians.

Wellington’s army at Waterloo suffered about 17,000 casualties (including killed, wounded and missing), representing an average casualty rate of just below 25 per cent. However, it should be noted that the casualty rate varied
considerably between the army’s units – some brigades suffered nearly 50 per cent casualties, and some unfortunate regiments were virtually annihilated. The elements of three Prussian army corps were engaged at Waterloo, but Bülow’s corps bore the brunt of the fighting in and around Plancenoit, losing 6,200 of its 30,000 troops involved.

Lists of the allied casualties were compiled in the days after the battle and hence do not include those soldiers who were temporarily absent from the ranks during the battle itself, either because they had straggled or because they had helped wounded comrades to the rear. By the closing phases of the battle, many of Wellington’s units were actually much weaker than is implied by the casualty numbers above; some had been reduced to small groups of exhausted survivors and could no longer be considered battle worthy.

In the immediate aftermath of the battle, most of the officers in the French army were more concerned about escape from the pursuing Prussians than about muster rolls. About a week later, when those units that had fought at Waterloo had been reassembled and counted, their strength had reduced from 77,000 to 31,000. However, the latter figure is distorted by some drafts which had joined the army during that week, and is further distorted by the thousands of discouraged soldiers who probably deserted during the retreat. It seems likely that the French army at Waterloo suffered a total of 44,000 casualties, including 26,000 killed and wounded, 9,000 prisoners and 9,000 missing.

After the two battles of Waterloo and Wavre, the remnants of the French Army of the North reassembled around Philippeville but they were now outnumbered 3:1 by the inexorably advancing armies of Blücher and Wellington, and the odds against the French were even worse on the other frontiers. Some of Napoleon’s dauntless supporters were willing to fight on, but much of war-weary France had lost hope in Napoleon’s success. Under pressure from the Chamber of Deputies, Napoleon agreed to abdicate on 22 June and the Waterloo campaign was all but over.
VIII. Lessons from the Waterloo Campaign

An account of the 1815 Waterloo campaign, or of any other aspect of military history, would be of little value if it were no more than a catalogue of discontinuous facts. It should of course present the facts – as accurately as available records and memories permit, to form the essential narrative – but it should also analyse that narrative and draw lessons to guide the decisions of future commanders.

The Waterloo campaign illustrates many of the particular principles of eighteenth- and nineteenth-century land warfare in Europe, notably:

- The value of visible and active leadership by which a commander of an army on the march or on the battlefield could inspire his troops and respond effectively to any unexpected challenges. Wellington and Blücher, in their different ways, provided vital encouragement to their armies during the Waterloo campaign.
- The utility of improvised field fortifications in villages such as Ligny and St Amand, and in smaller clusters of buildings like Hougoumont and La Haye Sainte.
- The necessity of organising well-co-ordinated attacks by infantry and cavalry, or by cavalry and horse artillery. These combat arms were more likely to be victorious if they operated jointly.
- The benefits of a defensive position behind the crest of a ridge. Medieval battles were decided by hand-to-hand combat and it was thus disadvantageous to fight uphill, so commanders tried to position their armies on the tops of hills or ridges. However, in the era of Napoleon, the firepower of ever-improving artillery made this policy unduly costly. Wellington appreciated the advantage of deploying his troops behind a ridge in order to shield them from enemy artillery fire, and had often used this tactic in the Peninsular War.
- The need to concentrate all available troops for a decisive battle. Long before Lanchester theorised that that the ratio of casualties incurred by opposing armies would be inversely proportional to the numbers of troops deployed,¹ all generals knew very well that (given comparable standards of weaponry, training, morale, and so forth) the big battalions had the advantage. Hence they tried to ensure that they had at least parity (and ideally superiority) of numbers before engaging in battle.

¹ Lanchester’s theories on the relative attrition of opposing military forces was presented in F W Lanchester, Aircraft in Warfare: The Dawn of the Fourth Arm (London: Constable and Co., 1916).
In addition, the Waterloo campaign incorporates lessons of enduring relevance to modern military commanders and political leaders. These lessons demonstrate the importance of:

- In force management:
  - Judicious selection of subordinates
  - Establishing a well-understood command structure
  - Providing good communications
- In generalship:
  - Focus on the primary objective
  - Unremitting energy in pursuit of that objective
  - Constraining the effects of selfish interests
  - Resisting over-confidence
  - Rigorous risk management
  - Structured decision-making.

Students of military operations can readily identify examples throughout history where some of these principles have been disregarded, and where the operations have consequently failed to achieve their objectives.

**Judicious Selection of Subordinates**

As Napoleon embarked on a ‘make-or-break’ campaign in modern-day Belgium in 1815, he needed, above all, to give this campaign the best possible chance of achieving victory. He should therefore have employed his best available commanders in the Army of the North, and used loyal but less outstanding officers in secondary roles. A crucial campaign is no place for nepotism, so he should not for a moment have considered giving command of a division to his younger brother Jérôme, who had no discernable military ability and had been judged incompetent in Russia in 1812. In practice, Napoleon made an inappropriate selection of the three key subordinates to form his management team for the 1815 campaign (as discussed in Chapter III).

Today, management science and psychology have established approved methods of selecting the best candidate for any vacant post. However, no methodology is infallible, and the selection process can be distorted by favouritism, nepotism, prejudice and political pressures with the result that the chosen individual has the wrong training or personality for his new post. The results (whether in military affairs, politics or banking, for example) are almost invariably disastrous.

**Well-Understood Command Structure**

Early in the campaign, Napoleon violated the eternal need of any military force to have a clear and unambiguous command structure. As explored in Chapter III, he made the belated and impromptu appointments of the commanders of
the left and right wings of his army (Ney and Grouchy, respectively) without having established an understanding of the powers and responsibilities of these officers. The resulting confusion facilitated the retreat of Zieten’s Prussian army corps on 15 June, and on 16 June prevented d’Erlon’s French army corps from participating in either of the battles of Quatre Bras and Ligny fought that day. In modern times, when many operations involve units from different armed services and from different allied nations, it is vital to clarify the scope of any commander’s authority.

**Good Communications**

In the modern age of mobile telephones and networked information systems, it is hardly necessary to stress the benefits of the rapid transfer of accurate and sufficiently detailed information and instructions. The lack of clear communication between Napoleon and his principal commanders was a major factor in his defeat in the Waterloo campaign; these deficiencies of communications were exacerbated by Napoleon’s longstanding method of direct command and the resulting reluctance of his subordinates to exercise intelligent initiative. Throughout the campaign, Napoleon failed to convey his ‘commander’s intent’ clearly to his subordinates. Gneisenau’s message sent to Bülow at around midnight on 14 June was similarly open to misinterpretation.

Ambiguity may be valuable in politics and in public relations, but in military operations (as in medicine, engineering and other such activities where mistakes have serious and blatantly obvious consequences) communications must be crystal clear and must offer no scope for misunderstandings, such as those which destroyed the Light Brigade in 1854. It was an even greater tragedy that in July 1914, as the First World War loomed, the messages exchanged between emperors, ministers and ambassadors did not convey unmistakeable warnings to the bellicose nations; less diplomatic equivocation might possibly have avoided a world war.

**Focus on the Primary Objective**

This study of the Waterloo campaign demonstrates the importance in any military operation of clearly identifying the primary objective, and of giving that objective the appropriate priority. In the 1815 campaign, Napoleon needed, above all, to achieve decisive victories over both allied armies in Belgium; such victories would allow him to capture Brussels (yielding political advantages and recruits to replace his army’s casualties) and later transfer his victorious troops to the Rhine frontier in order to oppose the approaching Austrians and Russians. It was particularly important for him to defeat Wellington’s army because its defeat might have driven the British government to withdraw from the Seventh Coalition, and hence deprived the

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2. It was a garbled order in the Crimean War which impelled the British Light Cavalry Brigade to make a doomed charge against the Russian artillery at Balaclava in 1854.
other coalition nations – Austria, Prussia and Russia – of financial support. So when Napoleon had opportunities of potentially decisive victories at Ligny and later at Waterloo, he should have assembled all the French troops available, leaving as few as possible unemployed or engaged in secondary operations. The essence of good military strategy is always to be as strong as possible at the decisive point.

In the American Civil War (1861–65), President Abraham Lincoln diverted Union military resources to attempt the conquest of east Tennessee and Texas, rather than concentrating on the defeat of the main Confederate armies. In 1914, the German High Command allocated too many army corps to the defence of Alsace and Lorraine and not enough to the all-important right wing in Flanders, thus reducing the chance of a decisive victory for Germany ‘before the leaves [fell]’. In many other wars the participating nations have distorted their operations to obtain a peace settlement more favourable to their government’s political interests, and thus delayed the defeat of their principal enemy.

Unremitting Energy in Pursuit of that Objective

Having identified the primary objective of the campaign, it is equally important to plan how success might be achieved and to follow that plan zealously and effectively. Napoleon’s plan relied on rapid manoeuvres to defeat the allied armies separately, but his army failed to operate in accordance with that plan. The French army made an early start on 15 June, and made long marches on that day to get into a good strategic position. However, Napoleon lost that initial advantage because on each of the following mornings the Army of the North and its commanders dawdled when Napoleon’s offensive plan demanded unrelenting activity to maximise his chances of victory. Unfortunately for the French, it had become standard practice in the French armies in 1813 and 1814 to permit the troops to forage and cook before leaving their overnight bivouacs, since their supply arrangements were generally inadequate. Furthermore, it may be that many of the French troops in the Army of the North had been weakened by malnourishment in childhood during the early years of the Revolution, or by years of confinement as prisoners of war, and they may have been simply incapable of prolonged exertion on successive days.

Napoleon himself also failed to sustain the momentum of his campaign. On 16 June – the day of the battles of Ligny and Quatre Bras – Ney and Gérard did not receive orders until mid-morning, several hours after dawn. On 17 June, having defeated the Prussians on the previous day, Napoleon’s principal objective was to defeat Wellington’s army and capture Brussels. Accordingly, he could have ordered a task force of his freshest units (probably

Lobau’s army corps, Subervie’s light cavalry and the heavy cavalry of the Guard, totalling some 14,000 troops) to march for Quatre Bras at dawn, and simultaneously should have sent imperative orders to Ney to attack whatever part of Wellington’s army was at Quatre Bras when these reinforcements approached. In this case, the task force could have arrived on Wellington’s flank near Piraumont (southeast of Quatre Bras) before Wellington had learned of the Prussian retreat, and before his own army had started to retreat. Had Wellington’s army been put under pressure from front and flank as it retreated, it might have suffered heavy losses.

The allied commanders were also guilty of squandering precious hours. Wellington’s failure (throughout most of 15 June) to alert his troops to the French invasion seriously delayed the assembly of his army, and ran the risk that the French would overrun the foremost detachments of the allied armies before they could be reinforced. Blücher’s choice on 18 June of Bülow’s corps to lead his army’s advance to join Wellington at Waterloo, despite that corps having the greatest distance to march and a bridge to cross, delayed the assistance which his ally urgently needed.

It is notable that if the Prussians’ first assaults on Plancenoit on 18 June, during the Battle of Waterloo, had been delayed for another hour or so, Napoleon might have seized the opportunity provided by Ney’s capture of La Haye Sainte at around 1830 to send most of his Imperial Guard to attack the centre of Wellington’s line of battle. If that assault had used most of the Guard’s twenty-one battalions available on the battlefield, rather than the five which subsequently attacked Wellington’s reinforced centre-right about an hour later, the result might have been very different. While the outcome of that particular ‘what if’ is unknowable, it illuminates the importance of urgency.

Indeed, Napoleon himself said ‘lost ground we can recover but never lost time’ and it remains important in most areas of human activity to act promptly in a crisis. In their blitzkrieg campaigns of 1940, Guderian and Rommel demonstrated that quick decisions, prompt transmission of orders and rapid movement by the troops involved could triumph over more-sluggish opponents. Modern military doctrine likewise aims to minimise the time period between an observation yielding new intelligence and the action appropriate to exploit it. Thus, it is vitally important the potential decision-makers are given the training, education and experience necessary to prepare them for any crisis which may arise, and to give them the confidence to react quickly and correctly.

**Constraining Selfish Interests**

During the Battle of Waterloo, on 18 June, Napoleon faced progressively smaller chances of victory but he had several opportunities to break off the
action and to retire safely, screened by his powerful cavalry. Retreat could have been considered:

- At 1300, when Bülow’s Prussian corps was identified threatening his right wing
- At 1500, after most of d’Erlon’s corps had been repulsed and disordered by British cavalry
- At 1630, when the first charges by the French reserve cavalry corps had proven unsuccessful.

At each of these points a prudent general in command of the French army would probably have chosen to retreat, accepting that the Battle of Waterloo was lost but hoping to preserve most of his army in a condition to fight again. However, as a political leader, Napoleon must have judged that a retreat would have been as fatal to his power as ruler of France as a defeat. A retreat, however it were presented, would encourage his enemies within France and would boost the confidence of the allied armies assembling beyond France’s frontiers. Since only victory could keep him in power, Napoleon chose to try and try again to defeat Wellington’s army in the hope that something (perhaps a random shot that had the effect of disabling Wellington) might tilt the balance in favour of the French, even if continuing the battle would cost several thousand more French casualties.  

It is a chronic problem in all nations, armies and commercial organisations that the interests of individual politicians, officers, managers and so on can diverge from the interests of the organisation, and their actions can be driven by hopes of individual enrichment or glory. In economics this phenomenon is known as the ‘principal–agent’ problem. Ambitious proconsuls or generals on the fringes of empires have often adopted aggressive policies, seeking personal advancement at the expense of the national interest or of the lives of their troops. In the early nineteenth century, Governor General Richard Wellesley seized most of southern India for the British Empire but almost bankrupted his employers (the East India Company) in the process; in the twentieth century, the US government found it difficult to restrain General Douglas MacArthur from a dangerous escalation during the Korean War (1950–53). Recently, some bankers have shown more concern for their own bonuses than for the security of their customers’ funds. At the national level, there are many examples in modern history where national leaders have

4. There are many other historical examples of leaders giving priority to their own interests. For example, Hitler forced Germany to fight on in late 1944 and early 1945, and to endure yet more casualties and destruction, because he personally preferred a ‘dignified’ suicide rather than humiliating capture and trial. In similar circumstances, gamblers who are losing tend to make ever-more-risky bets, hoping to retrieve their fortune but actually making bankruptcy more likely.
allowed concern for their own reputations, for their dynasties or for their political parties to take precedence over national interests.

Democratic nations try to resolve this problem by stipulating that an elected assembly must advise and consent to any major policy decision by the political leader. Large commercial organisations generally have a board of directors to oversee the chief executive. Governments have tried to achieve better control of their armies by appointing a powerful chief of staff, a people’s commissar or a représentant en mission to operate alongside each general, provide an authoritative second opinion and appeal, if necessary, for government action. All such arrangements have advantages and disadvantages, and few work perfectly.

**Resisting Over-Confidence**

One of the most dangerous obstacles to good decision-making by individuals, businessmen, generals and politicians is their tendency to believe that circumstances are actually as they wish them to be. Admiral John Godfry (the head of British Naval Intelligence during the Second World War) called this phenomenon ‘wishfulness’. It is especially dangerous when the ambitious members of a senior decision-maker’s staff display ‘yesmanship’, and interpret any available scraps of intelligence to gratify their leader by supporting his preconceptions, or when the senior decision-maker displays ‘cognitive dissonance’ by rejecting intelligence information which conflicts with his preferred preconception.

‘Wishfulness’ and the resulting over-confidence tend to flourish in situations where intelligence information is scanty and some of it is incorrect (either by accident or arising from deliberate distortion by the enemy). Over-confidence also flourishes in situations where the social, racial or other prejudices of a commander cause him to underestimate the enemy.

Military commanders must not be timid. They certainly need an adequate quota of self-confidence, daring and faith in their own judgments. However, that faith must not lead a commander to ignore the possibilities that his judgment may be unsound, or that his plan may be disrupted by blunder or mischance. The Waterloo campaign offers several examples of overconfidence:

- On 15 June, Wellington was utterly confident that his intelligence system would warn him of a French offensive; Blücher, meanwhile,

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5. This problem is discussed, for example, in Ben Macintyre, *Operation Mincemeat* (London: Bloomsbury, 2010).

6. In 1943, the Allies misled Hitler with disinformation about their future Mediterranean strategy, and in the following year misled him again about their plan to land in northern France.
did not doubt that all of his four army corps would concentrate at Ligny in time to join battle against the French
• On 16 June, the day of the battles of Ligny and Quatre Bras, Napoleon was so convinced that the allies were retreating that he did not (until too late) admit the possibility that Blücher’s rash forward deployment had given him the opportunity of a decisive victory at Ligny
• On the morning of 18 June, Napoleon was confident that Wellington’s army would not offer a stubborn resistance and that the Prussians were too demoralised by their recent defeat to participate in the Battle of Waterloo, so he delayed the start of the battle and took no action to delay a possible Prussian advance from Wavre
• On the same day, Wellington was so sure that Prussian reinforcements would arrive promptly (as they would have done had Thieleman’s corps been chosen to lead their advance) that he detached a substantial force (about a fifth of his army) to cover the Mons–Brussels road and placed his most battle-worn infantry brigades east of the Brussels road, on the most vulnerable part of his line of battle.

In all these cases the commanders concerned should have recognised that they might be wrong, and should have taken account of the adverse consequences that could follow if their over-confident judgements turned out to be incorrect.

Examples of over-confidence recur in modern times. For several crucial weeks after the evacuation from Dunkirk in the summer of 1940, Hitler appears to have been convinced that Britain would agree to a negotiated peace, and he therefore failed to energise preparations for the invasion of England. In 2003, several Western governments became confident that if the Iraqi dictator, Saddam Hussein, were displaced the people of Iraq would set aside their ethnic and religious differences and enthusiastically adopt liberal democracy; this outcome would provide a good example to other nations in the Middle East and promote greater peace and stability in the region (while also ensuring greater security of oil supplies). In fact, the governments’ confidence was misplaced, and the invasion and occupation of Iraq proved much more costly than anticipated.

The optimism bias arising from wishfulness is a chronic human failing, which is manifest in the initial budgetary forecasts for many ambitious public-sector projects, and in the faith of individual gamblers that their systems can beat the wheel at roulette. Policy-makers and military commanders must strive to resist it.

**Rigorous Risk Management**
Any decision-maker should accept that his planned operation is subject to a variety of risks. Accordingly, he should identify all the significant risks
and their potential adverse consequences, and then amend his plan (as far as is practicable) so that the risks are avoided or their consequences are mitigated. In the Waterloo campaign:

- Wellington should have moved his headquarters forward (possibly to Enghien, in the centre of his army’s bivouac area) so that he could respond rapidly to a French offensive even if his intelligence system failed to give adequate warning.
- Gneisenau should have woken Blücher in the night of 14 June so that he could sign the order summoning Bülow’s army corps to Ligny, and should have sent this order by hand of an aide (suitably senior and aristocratic) who could have explained its urgency.
- Napoleon should have ordered Lobau’s army corps to move north during the morning of 16 June so that it would have been within supporting distance of the French right wing, in case there proved to be a large number of Prussian troops at Ligny.
- Napoleon should have taken precautions to detect and obstruct any Prussian advance from Wavre to Waterloo.
- Wellington should have acknowledged on 18 June that the expected Prussian advance from Wavre might be delayed, and thus should have strengthened his vulnerable left wing, east of the Brussels road.

Wellington did, in fact, recognise the risk that his position on the Mont St Jean ridge could be endangered by a French manoeuvre round his western flank, which would cut his army off from the Channel ports, and he mitigated this risk by posting a blocking detachment at Hal. He had displayed a similarly active approach to risk management five years earlier when he started construction of the Lines of Torres Vedras (the forts built to defend Lisbon during the Peninsular War), a full year before they were needed in order to eliminate the risk that the French might drive him out of Portugal.

In their initial training, military personnel are conditioned to accept the small but finite risk of death or disablement on operations (or, indeed, in rigorous training), and they learn to override their natural instinct of self-preservation in order to accomplish the goals of the operation. A senior commander may continue to accept personal risks, but in parallel he must consider all the risks (some of which are chronically difficult to assess) to the success of his current operation, and he must avoid or mitigate them as far as possible. The commander must be prepared for all adverse eventualities and recognise that any proposed operation may not go according to plan (as Thucydides knew 2,500 years ago when he noted that ‘war is the last of all things to go according to plan’). Furthermore, he must ensure that his political masters accept this uncomfortable uncertainty.
Napoleon himself insisted that a general should foresee everything which an enemy might do, and should take the appropriate precautions to counteract any enemy action which would be seriously damaging. Such precautions have always distinguished competent military forces from amateurish opponents; diligent commanders always post sentries, even in situations which are apparently secure, and take the trouble to make rounds of inspection to ensure that the sentries stay awake. Roman legions on the march were expected to build a properly fortified camp every night. In contrast, the captain of SS Titanic in 1912 ignored the risk of encountering an iceberg, and the Soviet Union and the United States both failed in 1941 to take precautions against surprise attacks by unscrupulous enemies. In 1982, British commanders appear to have underestimated the risk of landing soldiers from the troopship HMS Sir Galahad within sight of Argentinian troops defending Port Stanley and failed to mitigate this risk by rapid disembarkation.

Analysis of the Waterloo campaign also demonstrates the importance of properly identifying and managing risks, particularly the low-probability, high-impact risks which are often overlooked. In the commercial world such neglect can cause catastrophic industrial accidents or bank failures.

**Structured Decision-Making**

This study of the Waterloo campaign demonstrates that the rival commanders had to direct their armies on the basis of incomplete, dubious and outdated information. They could be certain only of what was visible through their telescopes and of what was reported by trustworthy scouts and staff officers. In successive obscure and complex situations, each commander had to consider the alternative manoeuvres that his enemies and allies might be undertaking, and how far these manoeuvres might have progressed, before deciding what his troops should do in order to maximise his chance of victory. Throughout military history the victorious commanders have generally been those who were able to perform these complex mental acrobatics more successfully than their opponents, but even these commanders could have been assisted by a structured approach to decision-making, in which alternative options could be systematically assessed and discussed with respected subordinates.

This study provides some examples from the Waterloo campaign of how a modern, structured approach might have enabled the rival commanders

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8. Today, some commercial organisations use the ‘pre-mortem’ approach in which they assume that a project has gone badly wrong, and try to justify their current actions (or lack of action) from that perspective. This approach appears to help individual executives, who might otherwise be reluctant to appear pessimistic or disloyal, to consider risks more realistically.
to make better decisions at crucial points in the campaign. Both examples, which are discussed in detail in Chapters IV and V and relate to Napoleon’s decisions before and after the Battle of Ligny, happen to have applied to Napoleon, because his army was on the offensive and he held the initiative, but the same approach could have also helped the other commanders.

Although modern decision-makers have access to vastly more information about the prevailing situation, they still have no reliable way of judging how their allies and their enemies (any of whom can have different cultural imperatives and priorities) will react in an evolving scenario. In 1914, Europe blundered into a catastrophic war because political leaders and generals lacked empathy, and misjudged each other’s priorities. Throughout history, political and military leaders might have benefited from a structured approach to resolving their problems, and might have used the ‘minimum regret’ approach – that is, seeking to minimise the extra penalties which would be incurred if the actual saturation differed from that assumed by the decision-maker (see Appendix D) – to illuminate any complex strategic problem and suggest the most promising of several alternative options available to them.
IX. Conclusion

This study of the Waterloo campaign reviews its political context and presents an account of the military operations of the French and allied armies in the third week of June in 1815. It explains the challenges of commanding an army in the Napoleonic period when reconnaissance and communications capabilities were very limited (and had scarcely improved since Roman times) and when generals had only incomplete and uncertain knowledge of the enemy’s strength, position and intention. It follows that the rival commanders in the Waterloo campaign had to plan their manoeuvres in situations of chronic and extreme uncertainty.

This study identifies about a dozen of the key decisions which determined the course of the campaign and discusses how these decisions were influenced by the information available to the relevant commander and by his own preconceptions of the strategic situation. It demonstrates, for two particular decisions – Napoleon’s plan of action for his forces preceding the battles of Quatre Bras and Ligny on 16 June, and Napoleon’s decision on the strength and role of Grouchy’s detachment on 17 June – how modern methods of structured decision-making might have helped Napoleon to make better decisions on those two occasions.

Finally, the study shows that many of the lessons from the Waterloo campaign remain relevant to modern military and other leaders, despite the dramatic changes in military technology over the past two centuries. It remains true that political, military and commercial success can be best achieved by judicious assessment of the opportunities and risks involved in alternative options available to decision-makers. Even today the path to success in all these areas of human activity relies on the enduring principles of leadership and management which are universally taught in staff colleges and business schools.

Those democratic politicians whose education has been shaped by a different focus, giving them a variety of other knowledge and skills relevant to their vocation, and who may therefore not have absorbed these enduring military principles, should also recognise the dangers of ill-conceived and poorly planned policy decisions and therefore glean lessons from the Waterloo campaign. They should avoid adopting strategies which have not identified a primary objective or have not been subject to risk analysis, as well as those which have been driven by over-confidence or by particular interest groups. The epic story of the Waterloo campaign well illustrates the adverse consequences of such decisions.
Appendix A: Warfare in the Age of Napoleon

Organisation
In that era, an army consisted of the three combat arms of infantry, cavalry and artillery, a variety of important supporting branches such as engineering and supply, and the commander’s staff which implemented his command, control and communications.\(^1\) From 1805, any large French army was divided into several all-arms army corps which could march and fight independently; an army corps which encountered a superior enemy force was expected to defend itself for several hours until it could be reinforced. A typical army corps had three infantry divisions, a brigade of light cavalry and supporting artillery (some attached to the infantry and cavalry units and some in the corps reserve), totalling about 25,000 troops. An army corps could be considerably larger or smaller depending on circumstances; one army corps started the 1812 campaign with nearly 70,000 men.\(^2\) Besides the regular army corps described above, a French army commanded by Napoleon would have some reserve corps of light cavalry intended for reconnaissance and of heavy cavalry intended for decisive charges on the battlefield; it would also include the elite Imperial Guard which was sent into action only when it was required to achieve some decisive effect at a crucial point in the battle. In the later years of the Empire, the Imperial Guard was about as large as a regular army corps but had higher proportions of cavalry and artillery.

In the Waterloo campaign, the French Army of the North had five regular army corps, each consisting of 10,000 to 25,000 men, four reserve cavalry corps each with about 3,000 men, and the Imperial Guard of 20,000 men.

During the Napoleonic wars most other European nations adopted a similar organisation based on the concept of the all-arms army corps. The Prussian army in the Waterloo campaign had four large army corps but no army-level reserve of elite infantry, cavalry or artillery. The organisation of Wellington’s Anglo-Dutch-German army was complicated by the nationalist sensitivities of some German contingents and the need to appoint the inexperienced Prince of Orange to a high command. Wellington therefore adopted a nominal organisation of two infantry corps, a cavalry corps and an army reserve, and duly appointed the prince to command one of the infantry corps. However, this organisation had no operational significance and Wellington ensured that the prince remained under his close supervision.

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Infantry

In all the armies of this period the infantryman was equipped with a smoothbore flintlock musket of about 0.75-inch calibre, which used a black-powder cartridge to fire a spherical musket ball of slightly smaller diameter (weighing about an ounce). This was a relatively crude and inaccurate weapon. In trials it had less than a 50 per cent chance of hitting a target simulating a line of opposing infantry at 100 metres; it would have been considerably less accurate in the confusion and stress of a battlefield, and probably less than 1 per cent of the musket shots fired (many poorly aimed or at excessive range) actually inflicted injuries. However, a volley at close range could inflict heavy losses. Well-trained infantry could fire up to three rounds per minute, but after prolonged firing, powder residues accumulated in the barrel and delayed reloading. The infantryman could fix a bayonet on the end of his musket, and thus create a spear suitable for hand-to-hand combat.

In all armies, except the French, some units were armed with rifles which were accurate at about double the range of a smoothbore but took about twice as long to reload. In general these units were used for skirmishing, but at Waterloo most of Wellington’s rifle units were employed as elite infantry with exceptional firepower (for example, in defence of La Haye Sainte and the neighbouring sandpit).

The basic operational unit in the infantry was the battalion commanded by a major or a lieutenant colonel. A battalion at full strength had between 600 and 1,200 men, with different strength and internal organisation in different nations, but on campaign a battalion normally mustered 500–700 men present for duty. In the French army, battalions were assembled into regiments, brigades and divisions, with typically eight or nine battalions in each division. In the British Army the regiment was an administrative organisation and its battalions did not fight together; individual battalions formed brigades and divisions with about twelve battalions in each division. In the Prussian army three battalions were grouped in a regiment and three regiments in a division. In all three armies, individual infantry divisions could be considerably larger or smaller than the average.

An infantry battalion on the defensive normally deployed in a three-deep line to maximise its firepower (the British, exceptionally, used a two-deep line); but for manoeuvre or attack a battalion deployed in a column which could move more rapidly across country. A typical French battalion at Waterloo of 540 men (well below the 1808 standard of 840), could deploy in line 180 men wide and three deep, or in a column of companies thirty men wide and eighteen deep, or in column of double companies sixty men wide and nine deep. If one of the French battalion’s six companies had been detached

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3. The British ‘Brown Bess’ had 0.76-inch calibre, and the French Charleville had 0.71-inch calibre.
as skirmishers, these formations would be slightly smaller. To defend itself against a cavalry charge, an infantry battalion would form a square (actually an oblong), thus creating a four-deep hedge of bayonets which cavalry were generally unable to penetrate.

At Waterloo some of d’Erlon’s infantry divisions adopted the unusual attacking formation of a column of battalions each deployed in line and arrayed one behind the other. A resulting column of eight battalions was 150 men wide and twenty-four deep, with some 700 men skirmishing in advance. Such columns were psychologically daunting but they were also exceptionally vulnerable to defending artillery and the battalions could not form proper squares if they were attacked by cavalry. A front line of three battalions abreast, each in column of double companies, would have achieved about the same firepower, would have retained battalion coherence and could have better resisted cavalry attack.

**Cavalry**

In this period there were three types of cavalry: light, heavy and dragoons. The light cavalry (designated hussars, chasseurs, lancers or light dragoons) rode relatively small, fast horses suitable for scouting and reconnaissance, and for countering similar operations by enemy cavalry. They were armed with lances or curved sabres, each of which had advantages and disadvantages in different combat situations; lancers had the particular advantage of being able to break infantry in square when the weather was too wet for their muskets to be used effectively. The hussar and lancer regiments wore very dashing and colourful uniforms with exotic features recalling their origins (hussars in Hungary, lancers in Poland).

The heavy cavalry (designated horse guards, cuirassiers, carabiniers and dragoon guards) rode big, powerful horses and were armed with long, straight swords. Most wore helmets to protect their heads in a mêlée, and the elite French units (cuirassiers and carabiniers) also wore body armour. On a battlefield the heavy cavalry could fight on even terms against opposing heavy cavalry, and they could slaughter enemy light cavalry or disorganised infantry, but they were generally impotent against disciplined infantry in square unless accompanied by horse artillery.

Dragoons formed an intermediate category. The dragoon regiments had originally been formed, nearly two centuries earlier, to act as mounted infantry and their horses were then intended for transportation rather than for scouting or battle. However, the dragoons disliked their dismounted role, and eventually succeeded in being paid, dressed and mounted very like heavy cavalry (albeit unarmoured and on less expensive horses). In the Waterloo campaign dragoons were generally used as heavy cavalry.
At least some cavalrymen in each regiment also carried carbines (with a shorter barrel than a rifle or musket) to be used by sentries and, rarely, by dismounted skirmishers. The carbines in all armies had smaller calibre and shorter barrels than infantry muskets, and were even more inaccurate. A cavalryman on a moving horse could not fire his carbine effectively, and he had great difficulty in reloading. The French dragoons all carried a Year IX musketoon which had virtually the same firepower as an infantry musket.

The operational unit for cavalry was the regiment, which at full strength had 600–1,500 men depending on whether it was heavy or light cavalry and on its nationality. Heavy cavalry regiments were generally smaller than light cavalry regiments. On campaign regimental strengths fell due to illness and casualties to the men and horses, and in the armies at Waterloo most regiments had 300–500 men present for duty. In the French army there were two or three regiments in a cavalry brigade, two brigades in a cavalry division and two divisions in a reserve cavalry corps.

Artillery
Napoleonic artillery units were equipped with smoothbore cannon and howitzers. The cannon fired spherical solid-iron shot of 4–12 pounds at effective ranges of 600–900 yards, depending on calibre. Against targets at shorter ranges, cannon could fire a ‘canister’ containing dozens of musket balls which spread in a cone from the muzzle (like a shotgun). British cannon, uniquely, could also fire a hollow shell filled with gunpowder and musket balls (called ‘spherical case’ and invented by Colonel Shrapnel of the Royal Artillery) which was designed to burst over an enemy formation and shower it with musket balls; success relied on timing the fuse correctly, which was easier when aiming at deep targets, such as infantry in column. Cannon normally fired at two rounds per minute, achieving a faster rate in an emergency and a slower rate later in a battle as the gun crew became tired.

The effectiveness of cannon on the battlefield depended on the visibility, range, size and density of the target. Against large, dense formations of infantry or cavalry at close range, each solid shot or canister could inflict multiple casualties and shake the morale of other troops in the vicinity of the dead and injured. At longer ranges the effectiveness of cannon was degraded by intervening terrain, vegetation or smoke as well as by the inherent inaccuracy of any smoothbore weapon.

Howitzers used high-angle fire to engage targets which were screened by terrain or other obstacles in the line of sight. They fired common shell – this was a hollow iron sphere full of gunpowder which scattered lethal fragments when triggered by a fuse. Its lethality depended (like spherical case) on the correct timing of the fuse. Howitzers could also fire canister if required.
Artillery was organised in batteries of six or eight guns, including one or two howitzers, and each battery was accompanied by a train company with ammunition wagons and other supporting equipment. The battery and its train had 150–200 men depending on the number and calibre of its guns. In the foot batteries supporting the infantry, the guns were dragged by horses while the gunners marched alongside; the horse batteries had smaller and lighter guns, and in these batteries the gunners were mounted so that they could accompany the cavalry in its rapid manoeuvres on a battlefield.

Communications
Napoleon and other contemporary generals needed to decide on the deployment of a dispersed army several hours in advance because orders to distant units, and their movements in response, were both very slow by modern standards. A general depended for communications on the ability of a mounted courier to ride along unknown roads and deliver a message. The time taken for the journey would depend on the distance to be travelled and on the condition of the roads, whether the roads were crowded with troops and vehicles, and whether fresh horses were available along the way; the journey would inevitably take longer in darkness or bad weather, and could be interrupted by an accident or enemy interference. Because of such risks, a meticulous staff officer would send at least two couriers with copies of any important message, and would expect to see at least one receipt providing assurance that the message had been delivered. At his destination the courier had to locate the officer to whom the message was addressed; this could be easy if the officer’s headquarters had been in the same place for several days and its location was generally known, or it could be difficult if the officer and his troops were on the march or in action. The time taken normally to deliver a message during the Waterloo campaign, at distances of more than a few miles, was approximately:  

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\text{Time in hours} = 1 + \frac{\text{direct distance in miles}}{10}
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but the actual time taken for a particular message could be double or half of the time given by that formula.

Movement
When the officer commanding a distant unit received a movement order, he would issue orders to all his subordinates to assemble their troops, load up all portable equipment and move off in the sequence he required. An experienced unit could do this quickly, but a less experienced unit could be prone to confusion and delay. The speed of its march would then depend on the surface and gradients of the roadway, the frequency of bridges and fords,

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and the weather. In larger all-arms units the infantry and cavalry would march alongside the road wherever the terrain permitted, leaving the roadway to the artillery and other wheeled vehicles. Ideally, the component units of an army corps would move along parallel roads within a distance where they could support one another, but if this were not possible, the corps, in a single column, could extend over several miles depending on its strength and the proportions of cavalry, artillery and baggage (all of which occupied more road space). On a reasonable road or track the infantry could march at about 12 miles per day, or double that distance on a forced march. Cavalry could travel some 50 per cent further, depending on the condition of the horses and their need to spend time grazing. All of these speeds were reduced if the way were rough, steep, boggy or crowded. Horse- and foot-artillery batteries tried to move at the same speed as their associated cavalry and infantry units but their vehicles were more severely delayed by adverse terrain. A long column would inevitably be afflicted by multiple delays and would move at the speed of its slowest unit and so, for example, an army corps might move at or below 2 miles per hour.

The painfully slow speed across country on the part of major fighting units made it important for a general to direct their lines of march along paved roads wherever possible and to anticipate where such units would be needed in time for them to arrive punctually. Even in the Waterloo campaign, which covered a comparatively small area, commanders had to plan well in advance.

**Command and Control**

In the Napoleonic period, as throughout military history, it was important that a commander’s orders to his subordinates clearly expressed the ‘commander’s intent’ and conveyed unambiguous instructions for the subordinate’s future operations. Orders which were compiled in haste or under stress could be garbled or misleading, or might mistakenly assume that the subordinate fully understood the commander’s current situation and priorities.

At the start of a campaign, a Napoleonic general knew the strengths and locations of his own forces in their dispersed cantonments. However, once these forces started to move in response to his orders or enemy action, he no longer knew exactly where his own forces were because the reports from subordinate commanders were infrequent and hours out of date when they arrived. This problem was particularly severe for French generals campaigning in Spain or Russia, where the spaces between their various forces were infested

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by ferocious guerrillas and couriers needed brigade-level escorts. The general would only know where all of his own forces were after they had concentrated on a battlefield, within range of his telescope.

**Intelligence**

Similarly, at the start of a campaign, the general’s chief of intelligence could estimate, from the reports of spies and scouts, the strengths and locations of the enemy’s principal forces; but once these enemy forces began to move, the general could only surmise their current positions and intentions. As the opposing armies made contact, reports from the general’s cavalry patrols could inform him of some places where hostile forces were and some places where they were not. Such information (which might be hours out of date when it reached headquarters) allowed the general to form a hypothesis about the enemy’s intentions and to formulate his own plans to thwart them.

Even when the opposing armies deployed for battle, the general would be able to see only a part of the enemy army on the battlefield and could not know whether additional enemy forces were nearby. Consequently, he could make only an approximate judgement about the balance of forces in the imminent battle, except in the special case where he had identified and located all the enemy’s units. Any French general faced particular difficulty when opposing the Duke of Wellington, who deliberately used uneven terrain wherever possible to conceal his army from enemy observation.

No general could know whether additional enemy forces were approaching his army from a dangerous direction, so he relied on his own wide-ranging cavalry patrols and on all-arms detachments from his own army to detect and delay such unwelcome arrivals. With due warning, he could redeploy his own army to nullify the threat or make a timely retreat. An ultra-cautious general might create and field multiple, over-strong detachments and thereby reduce his main force to impotence.

The problem presented by the fog of war was well described by historian Bruce Catton, writing about the American Civil War:6

> The military planner who becomes lost in the fog of war rarely notices the onset of the fog. It comes on gradually, the sum total of many small uncertainties which hardly seemed worth a second thought. There is a little patch of mist here, another patch over yonder, a slow thickening of the haze along the horizon, the sky turning grey and sagging over the woods, sunlight fading out imperceptibly ... and then, suddenly, the horizon has vanished altogether, there is fog everywhere and the noises coming from the invisible landscape are unidentifiable, confusing and full of menace, at which point it

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is mortally easy to give way to panic and do oneself great harm.

Timing of Events
The timing of key events in the campaigns of Napoleon, which are cited in the reports and memoirs of participating officers, must be regarded as approximate. Their accuracy depended on the officer’s careful record keeping amid multiple distractions and the quality of his personal timepiece. They also depended on how he defined the event he was recording, such as the start of a battle or the arrival of reinforcements. Battles in this era often began gradually with a period of skirmishing and/or bombardment before the subsequent attacks by massed infantry and cavalry, so the quoted start time may vary in the accounts of different observers. Similarly, the arrival of reinforcements can be defined as the point at which the leading elements approached the battlefield or as the time when the entire reinforcement unit had been deployed and was ready for action; it follows that the quoted arrival time of an army corps might vary by several hours depending on the number of roads and tracks available. Accordingly, most of the times cited in this study should be regarded as indicative rather than precise.
Appendix B: Marshals Ney and Grouchy

Ney
Michel Ney (born 1769) enlisted as a hussar in 1787 and after the Revolution won rapid promotion, reflecting his aggressive and enterprising leadership in multiple battles and skirmishes. After he was promoted to general of brigade in 1796 and general of division in 1799, he typically commanded an all-arms force acting as advance guard or rear guard to the main army. He showed the boldness in attack and resolution in defence which he later displayed in command of an army corps. Although he was not one of the group of favoured generals who had served Napoleon in Italy and Egypt, he was included in the first list of Marshals of the Empire in 1804. Napoleon’s judgment was justified by Ney’s outstanding performance at the battles of Elchingen (1805), Jena (1806) and Friedland (1807).

Ney was less happy serving under Masséna in the abortive invasion of Portugal in 1807 and was sent on leave after persistent and near-mutinous insubordination. He was recalled to command a corps in 1812 and played a leading role in the French victory at Borodino in September of that year (although towards the end of that battle he outspokenly criticised Napoleon’s failure to use his Guard to achieve a more decisive victory). For most of the disastrous French retreat from Moscow in late 1812, Ney commanded the rear guard and inspired his half-starved and half-frozen troops to shield the disintegrating Grand Army from utter destruction.

After serving through the campaigns of 1813 and 1814 as Napoleon’s empire progressively collapsed, Ney led a delegation of senior generals to tell Napoleon directly that France was beaten and that he must abdicate. After the Bourbon restoration, Ney was upset and disappointed by the arrogance of the royal aristocracy, but nevertheless willingly accepted King Louis XVIII’s order to command some of the reluctant troops sent to block Napoleon’s march on Paris following his return from Elba. Discouraged by the ineptitude of royal princes and the attitude of the troops, Ney was persuaded by a direct appeal from Napoleon to become a Bonapartist again. However, for most of the Hundred Days he was kept away from court, and was only summoned to join the Army of the North as a supernumerary a few days before the invasion of Belgium.

In the afternoon of the first day of the Waterloo campaign, Ney was given command of the left wing. At this point, he had borrowed horses, a skeleton staff and no rapport with Napoleon on how he hoped the campaign would develop. Besides these practical problems, Ney was depressed that (despite

all his military efforts during many campaigns in the service of his country) the prospects for France appeared to be equally bleak under the Emperor Napoleon or under King Louis XVIII. His conduct and reported statements during the campaign are consistent with a conscious or subconscious preference to be killed in action. This state of mind could not be conducive to intelligent enterprise or good judgment.

**Grouchy**
Emmanuel de Grouchy was unique among Napoleon’s Marshals because he had been born, in 1766, into France’s titled nobility, and he was already serving as an officer of cavalry before the Revolution. He served under Hoche in the Vendée (an uprising against the Revolution that lasted from 1793 to 1796) and under Joubert in Italy (1798–99), and commanded an infantry division under Moreau at Hohenlinden (1800). He later distinguished himself as a cavalry general under Napoleon in the campaigns of 1806–07, 1809 and 1812 but was (like Ney) never one of Napoleon’s inner circle and never received the rewards which he expected. Perhaps he had incurred black marks by his opposition to the Consulate in 1799 (the government that ruled France between 1799 and 1804) and his later overt sympathy for Moreau during his trial for treason a few years later.

Grouchy submitted to the restored King Louis XVIII in 1814 but rallied to Napoleon when he returned from Elba in the following year. He was subsequently appointed a Marshal after suppressing a royalist insurrection in the Midi, and given command of the reserve cavalry in the Army of the North. When the army was divided into two wings and a reserve, he was given command of the right wing.

It is notable that throughout his career Grouchy had always commanded part of a large army and had always been directly under the orders of a commanding general. Unlike Ney, Grouchy had never before commanded an independent detachment operating away from the main army. Perhaps that is why on 17–18 June he followed Napoleon’s flawed orders to the letter and did not display the intelligent disobedience that might have led him to intercept the Prussian army en route from Wavre to Waterloo, thus giving Napoleon a better chance of victory on 18 June. In the days which followed, Grouchy conducted a skilful retreat, but by then it hardly mattered.

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8. Grouchy’s career is covered in Chandler, *Napoleon’s Marshals*. 
Appendix C: The Misdirection of d’Erlon

There are many explanations for the disastrous dithering of d’Erlon’s corps throughout the campaign of Waterloo, arising from the many and varied memoirs of the officers involved in the muddle. The most plausible explanation has been presented by historian Andrew Uffindell in 2006. He believes that at about 1515, soon after the start of the Battle of Ligny, Napoleon’s chief of staff (Marshal Soult) wrote a formal order to Ney commanding him to bring his force to Ligny. Before the courier departed, Napoleon received a rumour (incorrect, but plausible) via Charleroi that Ney was facing 20,000 English troops at Quatre Bras and, realising that Ney would be unable to bring his entire wing to Ligny, Napoleon scribbled a pencil note directly to d’Erlon. The pencil note itself has been lost but it is believed to have said: ‘Make immediately with all your troops for the heights of St Amand and fall on Ligny.’ 9 Napoleon probably intended that d’Erlon should aim his corps at the hill behind St Amand (where Blücher had his headquarters in the village of Brye), thus coming in on the right rear of the Prussians, but d’Erlon was unfamiliar with the topography of the Ligny battlefield and therefore marched directly on the village of St Amand, which was about a mile farther south.

The courier, Colonel Forbin-Janson, was told to take the pencil note to d’Erlon and then take Soult’s formal order to Ney to explain to him the reasons for d’Erlon’s new assignment (other accounts say that the pencil note was carried by Général Count de la Bédoyère, but this distinction is hardly important except to the descendants and partisans of those two officers). For assurance, a second courier, Colonel Laurent, was sent directly to Ney soon afterwards, to ensure that Ney understood why d’Erlon had been sent a direct order from Napoleon to come to Ligny.

At around 1615, Forbin-Janson found d’Erlon’s corps south of Frasnes and, in accordance with Napoleon’s intentions, he used his authority as an Imperial staff officer to divert the march of the corps towards Ligny. 10 He later found d’Erlon himself in Frasnes and showed him the pencil note; but for reasons unknown, he did not locate Ney and returned to Ligny with Soult’s 1515 order undelivered. D’Erlon hastened to rejoin his corps and then sent his chief of staff, Général Decambre, to advise Ney where he was going. When Ney received this news at around 1700, he was (understandably) furious and, without calculating where the corps might be by now and how long a message would take to reach it, he sent Decambre with an imperative order that d’Erlon’s corps should immediately return to Quatre Bras. Ney probably expected that when d’Erlon’s army corps was diverted it had been close to

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10. Napoleon had decreed on 1 June that verbal orders from an Imperial aide should be treated as direct orders from the emperor himself.
Quatre Bras (as it should have been had it not dallied for a couple of hours near Gosselies) and hence that the recall order could have been delivered and the corps could have returned within the hour. Actually, it had been diverted from around Frasnes, and therefore could not return to Quatre Bras before the end of the day.

By the time that Colonel Laurent (having been delayed by congestion behind the French lines) finally found Ney at about 1730 and explained the situation, d’Erlon’s corps had unexpectedly arrived in the rear of the French troops facing the village of St Amand (which d’Erlon thought was his destination), provoking temporary panic in the French ranks and delaying Napoleon’s decisive blow against the Prussians. Napoleon had expected d’Erlon to be a mile further north, aiming at the ‘heights of St Amand’ rather than at the village, and so he needed to send an aide to discover if the approaching troops were friendly or hostile. By the time they had been identified as friendly, Decambre had arrived from Quatre Bras and had given to d’Erlon Ney’s imperative order to return at once to Quatre Bras. D’Erlon, despite the protests of his senior officers, turned most of his corps around and marched off to the west. He left behind one infantry and one cavalry division with instructions to act cautiously; at 2000 they pushed the Prussian rearguard out of Wagnelée, but failed to deliver the lethal attack that Napoleon had planned.

There were many points at which proper staff work and communications could have avoided this debacle, as a result of which most of d’Erlon’s corps did not fire a shot that day:

- Napoleon should have ensured that Forbin-Janson properly understood d’Erlon’s objective and could give him exact directions. Napoleon should have remembered that Ney had bungled a similar flanking manoeuvre at the Battle of Bautzen in 1813 (against the Prussians and Russians) two years earlier, and therefore should ideally have sent two Imperial aides to stay with Ney and d’Erlon and ensure that both followed orders
- Forbin-Janson should have found Ney, as ordered, and clarified the situation for him, thus preventing Ney’s recall order. Napoleon could then have redirected d’Erlon to his correct objective in time for a devastating attack on the Prussians before dark
- When he heard that his expected reinforcements were marching away, Ney should (despite his disappointment and fury) have paused for some discussion with Decambre who might have explained the circumstances
- D’Erlon should have sent a staff officer ahead to Napoleon’s headquarters to the north of Fleurus, with news of the line of march of his army corps and his expected time of arrival
D’Erlon, having seen Napoleon’s personal note and being aware that Forbin-Janson had brought that order directly from the emperor, should have given it priority over Ney’s recall order, despite Napoleon’s earlier command which insisted that orders issued by the commanders of the two wings must be obeyed without question unless Napoleon himself was present. In this doubtful situation, d’Erlon could himself have ridden 2 miles to Napoleon’s headquarters north of Fleurus, without much loss of time, to resolve his dilemma.
Appendix D: Decisions under Uncertainty

Since the future is never foreseeable, and often a great deal of the present situation is obscure, human beings must choose between the various options available to them at a time when the outcomes of these options are unknown. Humans use their own experiences, and the experiences of others recorded in folk tales or history books, to guess what will happen in the future and hence which of the available options will probably yield the best result. Such decisions have been made through the ages by hunter-gatherers, farmers, merchants, soldiers and so forth but none has ever been in a position to quantify with confidence either the probabilities of success and failure or the associated benefits and penalties.

In the artificial situation of some games of chance (such as roulette, dice and baccarat), in which the probabilities of various future outcomes and the associated gains and losses are predetermined, a gambler is able to calculate the ‘expected benefit’ for each of his alternative options and then to select the most favourable. The expected benefit of an option is the sum over all potential outcomes of the product of the probability of an outcome and the associated gain or loss (at roulette, for example, the expected benefit of betting £10 on red is \[\frac{10 \times 18}{37} - \frac{10 \times 19}{37}\] = -2.7 pence; the bank wins in the long run, but gamblers enjoy the experience). Good gamblers can do these calculations faster and more accurately than others, and have an increasing advantage as the games become more complex.

In horse racing a gambler does not know the actual probability that his chosen horse will win (though he does know, from the quoted odds, the consensus of other gamblers); however, he does know exactly the resulting reward from a fixed-odds bet. By contrast a gambler on a national lottery knows exactly his (tiny) chance of winning, but the scale of his reward is uncertain because he cannot know how many others have chosen the same numbers. Some card games (like poker and bridge) offer scope for interactions between players with different and unknown strategies, so the best option is not obvious except to the most expert players.

Payoff Matrices
In the real world where both the probabilities of alternative future situations and the outcomes of alternative options are unknown, it is often helpful to construct a payoff matrix showing the gain or loss which will arise from a combination of a potential situation and an available option. Often the process of constructing a payoff matrix helps to clarify the decision-maker’s perceptions about which outcomes and options should be included, and the assumed gains and losses can be varied to discover if they critically affect the ranking of alternative options.
This process can be illustrated by a real problem which faced the British government in 1996 as it became aware that some British cattle were infected with Bovine Spongiform Encephalopathy (BSE), widely known as ‘mad cow disease’. At that stage it was not known how easily this disease could pass from infected cattle to others in the vicinity or to their offspring, or, as the variant Creutzfeldt-Jakob Disease (CJD), to humans who ate their infected meat. The government judged that if it took no action and if the infection rate were high, there would be a horrendous level of human and bovine mortality which was assigned the value 100 (in reality, this value would have been expressed in sterling, with the appropriate valuation for human lives normally used to assess road safety). Similarly, if the infection rate were low, the losses would be at the ‘acceptable’ level comparable to other current diseases and accidents, and this acceptable level was assigned the value 10. An intermediate infection rate would yield losses valued at 50. As an alternative to doing nothing, the government could adopt a draconian package of measures which would cost 40 but reduce the losses to BSE by 90 per cent, or a milder set of measures which would cost 10 and reduce it by 50 per cent.

These numbers were inevitably approximate but they represented the best judgements of experts at the time. They probably were used at the time to construct a payoff matrix, within which, in this case, all the outcomes are costs and are therefore negative.

Matrix 3: Payoff Matrix.

<table>
<thead>
<tr>
<th>Government Action</th>
<th>Infection Rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Do nothing</td>
<td>-10</td>
<td>-50</td>
</tr>
<tr>
<td>Mild action costing 10</td>
<td>-(10 x 0.5) -10 = -15</td>
<td>-35</td>
</tr>
<tr>
<td>Strong action costing 40</td>
<td>-(10 x 0.1) -40 = -41</td>
<td>-45</td>
</tr>
</tbody>
</table>

An optimistic government might hope that the infection rate would actually be low, and would therefore choose to do nothing since the resulting payoff of -10 would be more favourable than either -15 or -41. A cautious government would take strong action which would limit the worst outcome (for a high infection rate) to -50. However, each of these strategies – called ‘maximax’ and ‘maximin’ respectively – focuses almost exclusively on one of the values within the payoff matrix and takes little account of the others.
It is often more helpful to formulate a *regret* matrix. This is done for each possible infection rate by identifying the government policy which yields the most favourable outcome and calculating for the other policies the difference between their outcomes and the most favourable. The difference represents the government’s ‘regret’ for choosing the wrong policy for the actual situation and the level of blame which it might attract.

**Matrix 4: Regret Matrix.**

<table>
<thead>
<tr>
<th>Government Action</th>
<th>Infection Rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Do nothing</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Mild action</td>
<td>-10 +15 = 5</td>
<td>0</td>
</tr>
<tr>
<td>Strong action</td>
<td>-10 +41 = 31</td>
<td>10</td>
</tr>
</tbody>
</table>

Having constructed the regret matrix, a cautious government would select mild action which would yield regret of 10 or less, whatever the actual infection rate.

Whatever policy the British government selected in the national interest, it would have been well aware that particular groups (in the agriculture and food processing industries, for example) would have their own version of such matrices reflecting their own concerns, and as a result could be stridently advocating different policies.

**Example: Napoleon’s Options, Early Morning 16 June**

Early on 16 June (as discussed in Chapter IV) Napoleon could have ordered the left and right wings of his army (each of two army corps and one or two corps of reserve cavalry) to advance on Quatre Bras and Ligny respectively, sent his Imperial Guard and another reserve cavalry corps to reinforce the right wing, and retained one army corps near Charleroi. This was the option which he actually chose during the morning of 16 June. Alternatively, he could have concentrated five of his six army corps at Ligny against what appeared to be the larger of the enemy forces facing his advance guards. The outcome of each option would depend on which plan the allied commanders, Blücher and Wellington, had adopted and the possible outcomes could have been arranged in a matrix (as shown in Chapter IV). The underlined text signifies the outcomes that really happened; the others are based on judgement.
Matrix 5: Potential Outcomes of Maneuvers on 16 June.

<table>
<thead>
<tr>
<th>French Alternatives</th>
<th>Allied Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: Two army corps to Quatre Bras, three to Ligny, one at Charleroi</td>
<td>Plan A: retreat Two French victories over allied rearguards</td>
</tr>
<tr>
<td>Option 2: One army corps to Quatre Bras, five to Ligny</td>
<td>French victory over Prussian rearguard, Wellington withdraws without much damage</td>
</tr>
</tbody>
</table>

If Napoleon had followed modern methodology, he would have assigned numerical values to each of these outcomes, while accepting that such values would be subjective and approximate. In this case, he might have judged that if the allies were retreating behind rearguards (as per allied Plan A), the payoff from defeating two rearguards would be better than defeating one (a payoff of 2 rather than 1). He might also have judged that, if the allies were concentrating forward (as per allied Plan B), the payoff from a decisive victory over most of the Prussian army at Ligny would be much higher and would have been only slightly diminished by a drawn battle or even a defeat at Quatre Bras (possibly a net payoff of about 9). The payoff from two hard-fought victories could be given some intermediate value (approximately 4), balancing the defeat of the allied armies in Belgium and the consequent capture of Brussels against the casualties which would have depleted the Army of the North and thus reduced its ability to withstand the Austrians and Russians on the Rhine frontier. These numerical values could have been used to create a payoff matrix and a regret matrix, as shown below.

Matrix 6: Payoff Matrix, with Numerical Values.
Matrix 7: Regret Matrix, with Numerical Values.

<table>
<thead>
<tr>
<th>French Options</th>
<th>Allied Plans</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allied Plan A</td>
<td>Allied Plan B</td>
</tr>
<tr>
<td>French Option 1</td>
<td>0</td>
<td>9 – 4 = 5</td>
</tr>
<tr>
<td>French Option 2</td>
<td>2 – 1 = 1</td>
<td>0</td>
</tr>
</tbody>
</table>

If Napoleon had realistically acknowledged his ignorance about allied plans, rather than convincing himself that his enemies were retreating (as per allied Plan A), his payoff and regret matrices would have shown him that his actual choice of French Option 1 missed the opportunity for a decisive victory over the Prussians. The ‘minimum regret’ principle would have indicated that he should have chosen French Option 2, which yields regret values of one or zero, depending on the plan which the allies had actually adopted. Napoleon did try to implement Option 2 during the afternoon of 16 June, but because d’Erlon’s corps was misdirected and Lobau’s was too far away, Napoleon was unable to achieve a shatteringly decisive victory at Ligny.

It should be noted that the choice of French Option 2 would remain valid even if other credible numerical values were chosen for the payoff table.
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About the Author

David Kirkpatrick is Emeritus Professor of Defence Analysis at University College London, and an Associate Fellow of the Royal United Services Institute (RUSI). He served for some years as a specialist adviser to the House of Commons Defence Committee, and as Visiting Professor at the Defence Academy of the United Kingdom at Shrivenham. He has written many published papers on military history, defence-equipment acquisition and defence economics.

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