

Introduction

Poverty, privation, and misery are the school of the good soldier.

—Napoleon Bonaparte

Cold winter weather descended on the French army as it began its retreat. Although the troops had advanced with supreme confidence bolstered by the memory of earlier victories, in this case, their commander had led them too far from their homeland, bringing his force deep into enemy territory with no means of sustaining itself. The weary troops thus began retracing their path on miserable roads, all the while glancing over their shoulders for signs of the pursuing enemy. As suffering increased with each step backward, morale plummeted. The grim conditions encouraged a mood of despair that contrasted sharply with the enthusiasm prevailing through the ranks during the initial march into enemy territory. One officer cursed “the rigor of the season, the terrible roads, the poverty of the countryside, and above all the indiscipline of the army.” Another lamented “the deplorable state of the army, without shoes, without cloaks, demoralized and unable to envision any success in a countryside deprived of provisions.” This miserable spectacle even shook the confidence of the army commander as he witnessed his once powerful force disintegrate into a ragged mass. “I challenge the devil,” he wrote bitterly, “to make war in this region during the winter!”¹ Most of all, the privations of the retreat impacted the common soldiers as they struggled over the long miles separating them from their homeland. Many would not survive the experience. As the troops inched homeward, corpses began to pile up along the frozen pathways that marked the line of retreat. While the battlefields of the Napoleonic era became famous as locations of death and mutilation, many of the most intense moments of suffering occurred on the road.

Readers familiar with the history of the Napoleonic Wars might assume that the lines above describe Napoleon’s infamous retreat from Moscow during the winter of 1812. The disastrous end of the Russian Campaign undeniably holds a place among the most significant moments in military history. As it staggered westward from Moscow, one of the largest armies ever assembled experienced total collapse amidst bitter winter weather, a crippling defeat that dealt a heavy blow to Napoleon’s reputation and helped to seal the fate of his empire. However, the story

¹ Cited in Chuquet, *L’Expedition de Custine*, pp. 166–167. All translations are by the author unless otherwise noted.

above actually describes a campaign that took place two decades earlier, in the winter of 1792, during the first year of the fateful conflict between revolutionary France and the combined powers of Europe's *ancien régime*. At a time when Napoleon was still an undistinguished junior officer, France's revolutionary government charged General Pierre Riel de Beurnonville with capturing the German city of Trier on the banks of the Moselle, just across the eastern border and only about 320 kilometers from Paris. After failing to dislodge the Austrian troops defending the city, Beurnonville ordered a withdrawal that quickly degenerated into a grueling retreat through challenging winter conditions. According to records of the campaign, 92 soldiers had perished of fatigue and exposure by the time that Beurnonville's army straggled back over the Moselle into France. To be sure, Beurnonville's withdrawal from Trier in 1792 unfolded on a far smaller scale than Napoleon's epic retreat from Moscow in 1812. Yet these two events nonetheless present striking similarities. In each case, the campaign began with a bold eastward advance by aggressive French armies, followed by a chaotic retreat marked by intense suffering and mass mortality in winter conditions. The parallels between these two episodes reveal much about the nature of the conflict that ravaged Europe at the turn of the nineteenth century. In both cases, retreat served as a trigger for the rapid disintegration of armies, as orderly ranks degenerated into disorganized bands struggling for survival amidst the combined miseries of hunger, disease, and exposure to the elements. Such episodes suggest a fundamental and often ignored point about the wars of the Napoleonic era. The history of this conflict is, to a significant degree, a story of mass movement.

Military campaigns set millions of people on the roads, including soldiers brought by various means from their homes to the frontlines, the diverse array of camp followers who inevitably shadowed armies on the march, and refugees driven from their communities by the horrors of war. These movements also played out in an environmental context. The success of Napoleonic armies hinged upon the mass mobilization of food, military equipment, livestock, gunpowder, and other resources. The circulation of people, animals, and materials across the theaters of operation thus defined the Napoleonic era and was also crucial in shaping the death and devastation that the conflict brought to the communities and landscapes that fell under the shadow of war. The maneuver of troops on the battlefield carried obvious consequences for their chances of survival, but military movement could also produce a myriad of other dangers for soldiers and civilians, dangers that were in the end responsible for far more deaths than enemy fire. As they marched along the roads of Europe, Napoleonic armies encouraged the spread of a diverse array of microorganisms, triggering lethal outbreaks of disease that accounted for the single most significant cause of death in the conflict. Armies frequently struggled to transport adequate provisions and supplies to the men on

the frontlines, leading them to suffer from long periods of starvation and exposure to the elements, further weakening their bodies and compromising their health. Soldiers often responded to these conditions by seizing supplies along their line of march, extending the cycle of suffering into local communities. In the Napoleonic Wars, the routine movements that occurred in and around army camps thus often made the difference between life and death on campaign. Since army health was in turn central to the conduct of war, the patterns of day-to-day mobility in the ranks cannot simply be dismissed as part of the background story to battles and sieges of this era. Rather, everyday military movement and its environmental consequences played a central role in determining the outcome of military operations in this era, thus shaping the fate of nations during this time of dramatic geopolitical upheaval.

This study examines the roads traversed by Napoleonic armies as “militarized landscapes,” which means viewing them as distinct environments generated by the patterns of human conflict. The following chapters thus treat the interaction between humans and nature in wartime as a dynamic process shaped primarily by movement and characterized by the continuous circulation of people, animals, materials, and microbes through the zone of operations. This story begins with the initial mobilization of armies in the early 1790s, a process that generated new patterns of movement and disrupted peacetime routines, separating recruits from their familiar environments and creating novel ecological conditions along the lines of march. After tracing this process of mobilization, I turn to the grim consequences of everyday military mobility, as difficulties of transport in this pre-industrial age left the mobilized troops suffering from the lethal effects of hunger, disease, and exposure on distant frontiers. To better understand the impact of mobility on army health, I provide two detailed case studies of army operations, namely the intensely violent counter-revolutionary insurgency waged in the Vendée region of western France during 1793–1794, and Napoleon’s groundbreaking first Italian campaign of 1796–1797. Taken together, these campaigns reveal that the environmental effects of wartime mobility gave rise to an underlying strategic pattern that prevailed over the two decades of conflict that followed. France itself felt the deadly consequences of war during the early years of the fighting, most intensely in the Vendée, but Napoleon’s bold movements into Italy established a paradigm for addressing this threat by displacing the negative health effects of the war into enemy territories. This strategy would shift the focus of military movements to new theaters of war in Italy, Germany, Iberia, Eastern Europe, and even as far afield as Egypt and the Caribbean. My final chapters analyze this phase of the conflict with a focus on the role of military mobility in the spread of five major diseases that inflicted mass suffering and death in these campaigns, namely typhus, bubonic plague, malaria, yellow fever, and equine glanders. As I show, these afflictions played a central role in shaping the course of events from Napoleon’s rise to power at the turn of the

nineteenth century through his final desperate campaigns to defend his crumbling empire in 1814. Yet because the microbes responsible for these diseases possessed only a limited capacity for mobility, a comprehensive understanding of wartime outbreaks requires closer scrutiny of the movements of their human hosts, as well as a wide range of non-human vectors. Taken together, these examples show that the ecological impacts of army mobility constituted a defining feature of warfare in the Napoleonic era, carrying profound implications for both grand strategy and the everyday wartime experience. For millions of individuals caught up in these events, the deadly consequences of war were never solely confined to the battlefield. Rather, throughout these long years of conflict, soldiers and civilians alike suffered above all from the sickness, misery, and death that inexorably followed in the wake of armies on the march.

Roads as Militarized Landscapes

In this study, I argue that the fundamental character of warfare in the Napoleonic era becomes clearest when we turn our attention to the diverse forms of mobility that connected the frontlines to the home front. This approach draws upon the insights of the “new mobilities paradigm,” a program of studies advanced by scholars in a wide range of fields who are interested in a more complete analysis of the role that movement plays in shaping human societies. As sociologist John Urry notes, this interdisciplinary approach centers on the recognition that “all social entities, from a single household to large scale corporations, presuppose many different forms of actual and potential movement.”² A closer focus on the centrality of movement to human societies can, as historian Colin Poovey points out, provide us with a better understanding of “the flux that binds together most everyday activities.”³ Following such insights, a growing body of scholarship seeks to analyze mobility as a central theme in the history of warfare. In a study of the Eastern Front in World War I, Joshua Sanborn aptly suggests that wars should be analyzed as “violent migrations,” and that any attempt to understand war must consider the fact that “war plans hinge on moving men into the best position to kill the enemy,” and that warfare constitutes “one of the primary causes for human displacement.”⁴ This approach helps to fill a major gap in historical scholarship on warfare. As Yael Sternhell notes in a study of movement during the American Civil War, military historians have long recognized that armies move on campaign, “but only rarely have they

² Urry, *Mobilities*, p. 6.

³ Poovey, *Mobility*, p. 34.

⁴ Sanborn, “Unsettling the Empire,” pp. 290, 292.

dwelt on the meanings of these motions, on the ways they shape experiences and perceptions, and on the social, political, and cultural consequences of the vast surges in human mobility created by war.”⁵ This scholarship points the way toward a more complete analysis of human conflict, acknowledging the fact that the roads leading to and from the frontlines often play a more important role in warfare than the battles themselves. My study expands upon the significance of mobility to warfare by applying the insights of environmental history, thus recognizing that wartime movement is a product of natural conditions as well as human actions, and that armies on the move profoundly impacted environments along the line of march.

From the perspective of environmental history, military campaigns are a product of “co-production,” which means that the various animals, plants, microbes, and materials caught up in human conflict all exercise their own distinct forms of agency alongside the human actors who traditionally occupy the central place in the history of war. Historian Chris Pearson characterizes the environments created by warfare “militarized landscapes,” which he defines as “simultaneously material and cultural sites that have been partially or fully mobilized to achieve military aims,” including “army camps, weapons testing facilities, and air bases, as well as battlefields and other combat zones.”⁶ My analysis extends this insight to the roads and pathways trod by soldiers on the march, demonstrating that military mobility created distinctive ecological conditions wherever armies were on the move. Analysis along these lines significantly enhances our ability to understand the influence of environmental factors in military campaigns, allowing for a more nuanced recognition of the ways in which the day-to-day patterns of army mobility shaped human interactions with nature on a vast scale. Environmental historian Mart Stewart suggests the value of this approach in an article focused on mobility in the American Civil War, emphasizing that movement “was the mode by which nature was experienced” during the conflict.⁷ My study applies this insight to the vast array of source material produced by the French Revolutionary and Napoleonic Wars, which saw armies of unprecedented size operating across vast distances in highly varied ecological contexts. In particular, I use a closer analysis of these campaigns to show that the environmental impacts of wartime mobility carried deadly consequences that far exceeded the mortality associated with the battlefields of this era. As they moved to and from the front, the armies of the Napoleonic era unleashed waves of disease, hunger, and exposure, turning the roads traversed by soldiers into sites of mass suffering and death.

⁵ Sternhell, *Routes*, p. 4.

⁶ Pearson, *Mobilizing*, pp. 1–2.

⁷ Stewart, “Walking,” p. 221.

For participants in the Napoleonic Wars, the damaging effects of military movement were often first evident when long marches brought the armies through challenging environments and left soldiers without shelter amidst adverse weather conditions. Military historians have long recognized the impact of weather on the battlefield, and a growing body of scholarship in the field of environmental history has also begun to more directly address the complex question of assigning “agency” in warfare to these environmental factors. As historian Kenneth Noe notes in a recent study of the American Civil War, “weather shaped every campaign, often more decisively than we have fathomed.”⁸ Recognition of this reality requires historians to look beyond the influence of weather on the battlefield and seek a better understanding of the nuanced ways in which the elements shaped everyday life for soldiers. Analysis along these lines reveals that the experiences of the millions of recruits who marched into challenging meteorological conditions during the Napoleonic Wars reflected the broader changes in European views on weather and climate during this era. As historian Jan Golinski shows, European encounters with abnormal weather events during this period increasingly provoked debates about “the progress of reason and science,” which “echoed both the successes and failures of the enlightenment.”⁹ This paradox is evident in French armies of the Napoleonic era. Many commanders embarked on these campaigns with confidence that their planning and leadership could overcome the effects of adverse weather, but in the end, the fundamentally unpredictable character of nature meant that their orders sent millions of recruits marching into punishing and often deadly conditions. As countless recruits to Napoleon’s armies learned during these grueling campaigns, the effects of adverse weather conditions were most punishing when experienced on the move.

Everyday mobility also played a direct role in the relationship between armies and their sources of supply and was a major underlying factor in the significant logistical failures that occurred throughout the conflict. Above all, mobilization tended to disrupt access to provisions, leaving both soldiers and civilians vulnerable to persistent malnutrition, and at times facing outright hunger bordering on famine conditions. Closer scrutiny of this process thus reveals the value of the “new mobilities paradigm” as a means of advancing our understanding of the role of food in warfare. A growing body of scholarship in this field has increasingly shown that army provisioning was not simply a question of logistics, but rather a defining component of the wartime experience. As historian Rachel B. Hermann emphasizes in a

⁸ Noe, *The Howling Storm*, p. 9. For other studies of the impact of weather in war, see Winters, *Battling the Elements*; Petriello, *Tide of War*; Browning and Silver, *Environmental*, pp. 39–70; Scribner, *Under Alien Skies*, pp. 81–110.

⁹ Golinski, *British Weather*, pp. 4–5, 11. For scholarship on understandings of the weather and climate during this period, see also Janković, *Reading the Skies*.

recent study of food supply and warfare in the early history of the United States, a closer focus on wartime provisioning “offers an opportunity to understand not only the big moments of power shifts” but also “the smaller day-to-day activities that engendered them,” thus revealing “the contingency of power relations.”¹⁰ Closer scrutiny of the food supply systems of the Napoleonic Wars, as well as the frequent episodes of deprivation caused by their shortcomings, provides an opportunity to better understand the defining importance of mobility in shaping the everyday experience of provisioning during wartime. Armies of this era operated against the backdrop of an essentially pre-modern food system centered on cereal agriculture, aptly described by historian Steven Kaplan as “an economy of scarcity and uncertainty.” However, as Kaplan notes, food shortages were not simply a product of natural conditions, but rather of the “vast distance to traverse between the fields and the tables of consumers.”¹¹ These fundamental challenges of supply became most acute in wartime, as mobilization drew in hundreds of thousands of soldiers and distributed them across vast distances to camps that were often lacking in basic provisions. In the worst cases, food shortages in Napoleonic armies escalated to the level of mass starvation, but even in the best circumstances, troops in this era faced regular bouts of food deprivation that severely compromised their health and left many fatally weakened as they faced the rigors of life on the march. Such routine challenges of moving vital food supplies into army camps played a direct role in shaping the course of military operations, and thus profoundly influenced shifting power relationships throughout the upheavals of this era.

The links between everyday mobility in the armies and outbreaks of infectious disease during the Napoleonic Wars deserve particular attention. As unprecedented levels of mobilization swelled the size of armies, the 1790s and early 1800s witnessed a distinctly intense series of war-related epidemics, involving multiple outbreaks of a wide range of lethal diseases, including dysentery, typhus, malaria, yellow fever, and bubonic plague. Historians of the Napoleonic era have examined the impacts of disease in the context of individual campaigns, such as the yellow fever epidemic that decimated the French army sent to Hispaniola in 1802, or the typhus that crippled Napoleon’s forces during the march to Moscow in 1812.¹² However, no study of this era has yet taken a comparative perspective on disease outbreaks at different times and places, leaving historians with an incomplete

¹⁰ Hermann, *No Useless Mouth*, p. 4. For other recent scholarship on the links between war and food, see Hsiung, “Food”; Collingham, *The Taste of War*; Duffet, *The Stomach for Fighting*; Hurt, *Food and Agriculture*; Browning and Silver, *Environmental*, pp. 71–101.

¹¹ Kaplan, *Bread*, pp. xx–xxii.

¹² On yellow fever in Saint-Domingue, see Girard, *The Slaves*, 159–181. On typhus in Russia, see Talty, *The Illustrious Dead*.

picture of the overall patterns of sickness and death that formed a constant presence in Napoleonic armies. Recent studies by Erica Charters on British campaigns during the Seven Years' War and Kathryn Shively Meier on Virginia during the American Civil War have demonstrated the value of such an approach, comparing campaigns in distinctive disease environments to reveal important underlying patterns of army medical care and soldier health.¹³ My study builds on this approach by using a comparative analysis of the major campaigns of the Napoleonic era to demonstrate that military mobility played a determining role in shaping the spread of disease through French armies and among the civilian populations situated along the line of march. These campaigns unfolded in a wide variety of disease environments, each with a distinct set of natural conditions, yet in each case the realities of day-to-day mobility in the armies conditioned the incidence of sickness in the ranks, directly shaping the patterns of life and death on campaign.

Environmental historians have long recognized the broad links between army movement and epidemic disease. Leading studies in the field have uncovered numerous cases in which disease accompanied armies on the march, ranging from the role of Mongol hordes in the spread of bubonic plague to the transmission of Eurasian diseases to the Americas in the ships of Spanish conquistadors.¹⁴ Yet these studies generally focus on large-scale army movements, addressing military operations as part of the background story to major disease epidemics. As political scientist Andrew Price-Smith notes, while extensive evidence shows that "war has historically functioned as a central catalyst in the propagation of infectious diseases," scholars are still working to identify "a robust theoretical construct of probable paths of causality."¹⁵ The insights of the "new mobilities paradigm" allow for a more comprehensive understanding of the links between war and disease, focused on the diverse forms of everyday movement in the ranks that were ultimately responsible for the circulation of infectious microbes. The records generated by Napoleonic armies are particularly valuable in this respect, as they allow us to trace the circulation of a wide range of microbes responsible for "camp fever" through the ranks of French troops stationed throughout Europe as well in distant postings across the Mediterranean and Atlantic. These sources reveal that infectious disease was not a static presence in wartime environments, but rather an active and dynamic force, with sickness sometimes receding into the background before striking with crippling force at crucial moments in the campaigns. This irregular pattern resulted above all from the constantly shifting

¹³ Charters, *Disease* and Meier, *Nature's Civil War*.

¹⁴ On the Mongol conquests and plague, see McNeill, *Plagues and Peoples*, pp. 161–207. On the spread of disease to the Americas, see Crosby, *The Columbian Exchange*, pp. 35–63.

¹⁵ Price-Smith, *Contagion and Chaos*, p. 2.

realities of everyday mobility in military camps and along the lines of march, as the movement of armies provided microbes with a wide range of new opportunities for circulation between unsuspecting human hosts.

The comparative analysis of wartime epidemics made possible by a close study of the Napoleonic era carries significant implications for our understanding of the historical impact of infectious disease. In an influential analysis of warfare in the Americas during the “age of revolutions,” historian John McNeill emphasizes the role of “differential immunity,” which favored armies composed of troops who possessed a higher degree of resistance to malaria and yellow fever thanks to previous exposure. As McNeill notes, these diseases acquired “political significance” during the wars, since large-scale expeditions of non-immune troops sent from Europe would be more likely to see major outbreaks and thus operated at a significant disadvantage. McNeill contrasts this outcome to wars fought within Europe during this era, as in this case both sides “often carried the same sets of immunities and susceptibilities,” so that diseases such as typhus and dysentery “had no systematically partisan effects” when compared to their tropical counterparts.¹⁶ A closer look at the role of army mobility in the spread of disease provides grounds for qualifying this conclusion. Armies operating in Europe during the Napoleonic Wars did experience roughly the same types of diseases, but the intensity of the outbreaks varied at different times and locations, thus often creating conditions that favored one side or the other, even in the absence of “differential immunity.” The uneven impact of sickness in Napoleonic armies was ultimately derived from the constantly shifting patterns of military mobility, as day-to-day circulation of people, animals, and microbes created distinctive disease environments along each army’s line of march. While “differential immunity” did not significantly impact the fighting in Napoleonic Europe, “differential mobility” played a central role in shaping the spread of sickness through the ranks.

The combined effects of disease, hunger, and exposure formed a central component of the wartime experience in the Napoleonic era and accounted for most of the deaths on campaign. In this sense, the Napoleonic Wars fit the patterns typically associated with warfare in the “pre-modern” era, a period in which battlefield deaths accounted for only a small portion of the total casualties.¹⁷ Recognizing the overwhelming effect of “natural” forces on military mortality during this era raises the challenge of accounting for the influence of nature in wartime while avoiding a form of environmental determinism that ignores human responsibility for war’s lethal outcomes. As I show, this challenge can best be solved with closer scrutiny

¹⁶ McNeill, *Mosquito Empires*, pp. 3–4, 6, 8.

¹⁷ On the causes of death in the Napoleonic wars, see Thorald, *From Valmy to Waterloo*, pp. 80–89. On mortality in pre-modern wars more generally, see Landers, *The Field and the Forge*, p. 335.

of the environmental consequences of military movement, as the analysis of day-to-day mobility in armies and their zones of operation allows for a more nuanced analysis of the relative impacts of human and natural forces on death in wartime. The environmental conditions contributed directly to the mass mortality experienced in this conflict, but in the final analysis, the precise timing, quantity, and character of these deaths depended on the complex ways in which armies moved, ranging from the large-scale maneuvers ordered by commanders to the everyday circulation of people, animals, and microorganisms through the theater of war. For the countless individuals caught up in this conflict, mobility in and around army camps directly shaped access to food and shelter as well as exposure to disease. As Napoleon's armies marched across Europe and beyond, the balance between life and death often hinged upon the complex array of human and non-human movements that occurred on a daily basis along the roads which they traversed.

Total Mobilization

Recognizing that the Napoleonic Wars transformed roads into "militarized landscapes" offers a new perspective on longstanding debates over the nature of warfare during this era. Much of the scholarship on this topic centers around historian David Bell's controversial characterization of this conflict as "the first total war," linked to a new "political dynamic that drove the participants relentlessly toward a condition of total engagement and the abandonment of constraints."¹⁸ Other scholars have challenged this thesis, questioning whether the wars of the Napoleonic era constituted such a fundamental break from past practice.¹⁹ In a perceptive assessment of these issues, Michael Broers has observed that while the culture of conflict may have seen a turn toward "total war," full realization of this vision was not possible given the material limitations of military technology and logistics in this era. As Broers notes, "the vision was modern, but the technology constrained it, if probably for the last time."²⁰ This observation suggests the need to better incorporate environmental history into studies of the Napoleonic era. Geographer Charles Travis has recently suggested a useful framework for further analysis in this direction, observing that the expanded scale of warfare in this era produced "battlefield conditions only previously experienced by humans in

¹⁸ Bell, *First Total War*, p. 8, emphasis in original.

¹⁹ For scholarship emphasizing continuity with previous conflicts, see Esdaile, *Wars*, p. 35; Planert, "Innovation," p. 71. For studies more favorable to Bell's thesis, see Crépin, "The Army"; Hewitson, *Absolute War*.

²⁰ Broers, "The Concept," p. 261.

geo-hazardous environments created by forests fires, landslides, earthquakes, and volcanic eruptions.”²¹ My study extends this insight into the environmental dimensions of Napoleonic warfare by more closely scrutinizing the “militarized landscapes” that emerged along the roads leading to and from the battlefield. While the battles of this era provided a glimpse into the horrors of industrialized killing, the suffering that occurred along the roadways remained fundamentally a product of the limitations inherent to a pre-industrial economy. Only by tracing the impact of the various non-human actors whose agency contributed to this outcome can we truly understand the destructiveness of warfare in the Napoleonic era. It was above all in the punishing marches that triggered waves of hunger, misery, and disease that the forces of nature converged with the emerging culture of “total war” to produce distinctly lethal conditions.

Analyzing roads as “militarized landscapes” forces us to expand our understanding of “total war” to encompass the diverse ways in which movement shaped the character of conflict. “Total mobilization” might be a more apt description for the changing nature of warfare in this era, with the term mobilization understood not just in the traditional sense as a reference to the scale of the war effort, but also in the more literal sense that captures the regular movement of people, animals, and resources between the home front and the frontlines. French mobilization at the turn of the nineteenth century brought significant changes to patterns of army movement, lending a distinctive character to this conflict even in the absence of significant technological innovations. These changes operated at multiple scales, visible in both the large-scale operations of armies and the daily routines of soldiers in the camps. In his pioneering study of the *Armée du Nord*, John Lynn notes that “probably as no modern conflict before,” the campaigns of the 1790s “entailed an emphasis on small-scale actions” which produced a “continual series of minor clashes fought by outposts, foraging detachments, and raiding parties.”²² This new style of campaigning required soldiers to be on the move on a more regular basis than in the past, an outcome with significant implications for the daily experience on campaign, most notably in the increased physical demands associated with more frequent movements. The expanding emphasis on regular mobility that developed in the early campaigns of the conflict coalesced into a set of doctrines on army movement that informed the approach of many French commanders during this era and came to be particularly associated with Napoleon and his “art of war.” As historian Jean-Phillipe Cénat shows, Napoleonic armies “succeeded in considerably increasing their mobility” in comparison to the campaigns of earlier eras.²³ The

²¹ Travis, *Environment*, p. 97.

²² Lynn, *Bayonets*, p. 279.

²³ Cénat, “De la guerre de siege,” p. 114.

emerging culture of “total war” in this era was thus accompanied by significant changes to the experience of movement on campaign. These new patterns of army mobility carried significant implications for the daily experiences of the recruits called to service throughout this period and often shaped their lives more directly than any of the ideological or cultural considerations associated with this conflict.

A closer focus on the patterns of daily mobility in wartime also reveals important new perspectives on Napoleonic grand strategy. Movement emerges as a fundamental element in the various “maxims of war” articulated by Napoleon over the course of his career. Napoleon’s statements on military art, as well as his conduct of campaigns, showed a preference for bold forward advances, perhaps best encapsulated by his recommendation that “once the offensive has been assumed, it must be maintained to the last extremity.” Napoleon surely recognized that such movements would inevitably sap the strength of an army, having observed this process directly throughout his long career. Yet he calculated that the advantages of such bold movements would outweigh the inevitable losses and indeed suggested that for an army on campaign, “a rapid march augments its morale and increases its means of victory.” Such thinking ultimately encouraged a tendency to dismiss the physical obstacles in the path of an army executing grand strategic maneuvers, and as Napoleon asserted, “an army can always pass, in any season, wherever two men can plant their feet.”²⁴ This mindset guided Napoleon’s strategic thinking and formed the cornerstone of the formidable war machine that he created. The influence of such thinking is evident, for example, in the writing of Jean-François Coste, director of medical services for the *Grande Armée* during Napoleon’s victorious campaigns of 1805–1807. Describing the Austerlitz campaign of 1805, Coste acknowledged that the army’s marches were “doubtlessly difficult, singularly rapid, undertaken and maintained under adverse weather conditions.” Yet echoing Napoleon’s maxim on the benefits of movement for an army, Coste also suggested that once on the march, the soldiers “advanced with the steps of giants along the path of glory” and were ultimately “indifferent to the influences of fatigue, climate, and the very rigorous season.”²⁵ This mentality permeated the highest levels of the *Grande Armée*, constituting a core principle of Napoleonic grand strategy that ultimately set Napoleon’s armies on punishing marches through difficult terrain across Europe and beyond.

The rapid movement of French armies under Napoleon culminated in bold maneuvers that disrupted his opponents’ plans and allowed for decisive advances into enemy territory. These movements served a strategic purpose that extended beyond victories on the battlefield. Napoleon’s aggressive operations helped to

²⁴ Napoleon I, *Napoleon*, pp. 11, 15, 133.

²⁵ Coste, *De la santé*, p. 10.

secure what Michael Broers aptly describes as “a shield behind which coherent, sustained domestic policies developed” as “the war zone moved well away from the core of the Napoleonic state system.”²⁶ A focus on the environmental consequences of army mobility reveals an underappreciated aspect of this process. By moving his armies so aggressively into far-flung territories, Napoleon put an increasing distance between the civilian populations living under his rule and the worst effects of hunger and sickness that followed armies on the march. Napoleon never specifically described this process in his various surviving “maxims,” but his military correspondence contains extensive references to the potentially harmful effects of army movements, which he actively sought to limit through close management of routine mobility in his ranks. While this effort was far from uniformly successful, when operating at its peak efficiency, the Napoleonic war machine proved better at mitigating the negative consequences of wartime mobility than most military systems of this era. Closer scrutiny of the “militarized environments” that emerged along the routes traversed by Napoleon’s armies demonstrates the fundamental dynamics at work as he maneuvered to expand the boundaries of French hegemony. Napoleon’s brilliant first advance into Italy during 1796–1797 brought an end to nearly five years of inconclusive fighting along the frontiers, a stalemate that had seen French armies crippled by hunger and disease while France itself faced the dreaded possibility that military defeat would see invading armies traversing the roads of *la patrie*, bringing more misery and sickness in their wake. From that point until the disastrous retreat of Napoleon’s hobbled armies toward the homeland in the winter of 1813–1814, France itself was spared the worst of war’s deadly environmental consequences.

While Napoleon’s success in displacing the frontlines provided France’s population with nearly two decades of protection from the most lethal effects of his wars, these triumphs came at the cost of pushing his war machine to ever greater exertions in pursuit of distant strategic objectives. This brought intense suffering in the ranks, as field hospitals filled with sick and starving soldiers. On several occasions, these maneuvers produced spectacularly lethal outbreaks of epidemic disease, such as bubonic plague during the Egyptian campaign of 1798–1799, yellow fever in the Saint-Domingue expedition of 1802–1803, and typhus during the invasion of Russia in 1812. Alongside such devastating but sporadic outbreaks, Napoleonic warfare exacted a daily toll along the lines of march. After moving to repel the English landing at Walcheren in Holland during the campaign of 1809, Marshal Jean-Baptiste Bernadotte reported to Napoleon that the number of “sick and lame left along the route did not exceed 700.”²⁷ The term that Bernadotte used for the

²⁶ Broers, *Europe*, p. 61.

²⁷ Saski, *Campagne*, III, p. 218.

lame, *éclopés*, applied equally to invalid soldiers and to lame horses, suggesting the inexorable physical suffering that living bodies experience under the pressure of rapid and continuous mobility in challenging environments. Such losses might have seemed insignificant as Napoleon's armies swelled to hundreds of thousands, but no general of this era could afford to simply ignore the potentially lethal consequences of forced marches into distant territory. As military historian Cathal Nolan observes, "battle made Napoleon Emperor of the French and de facto emperor of Europe," but "attrition, on the other hand, would whittle him down to Emperor of Elba," a reference to Napoleon's fate after his defeats in 1814.²⁸ This attrition took its greatest toll on the march, as soldiers on the move trailed sickness, hunger, and death in their wake. Recognizing this dynamic lends weight to historian Jeremy Black's recent characterization of Napoleon as a "strategic failure."²⁹ Napoleon's aggressive campaigns brought temporary relief from the effects of war to the core of his empire, but by their very nature such bold movements could easily produce stunning reverses, as armies hobbled by grinding attrition on long-distance campaigns suffered defeats that filled the roads with retreating soldiers, who in turn carried sickness, suffering, and death back to the homeland.

The final devastating collapse of Napoleon's empire was a predictable consequence of the significant increases in the scale and speed of warfare that characterized Napoleonic grand strategy. The expanded size and accelerated movement of French armies during this period were so deadly precisely because they occurred in the absence of major changes to military technology or the productive capacity of the home front. As historian John Landers notes of warfare during this era, the "underlying structures of an organic economy" created significant limitations on "the ability of military forces to maneuver and to obtain adequate supplies."³⁰ Fundamental changes in these areas would only come with the advent of fossil fuel power in the form of railroads and steamships. While these technologies did not immediately revolutionize every aspect of war in the decades after 1815, their rapidly expanding use in campaigns carried profound implications for the wartime experience. As historian William Thomas perceptively notes of the American Civil War, recruits of this era "came into the war as railroad travelers."³¹ In this sense, for all their ideological furor, the Napoleonic Wars are perhaps best seen as the pinnacle of an essentially pre-industrial style of warfare, as French

²⁸ Nolan, *Allure*, p. 219.

²⁹ Black, *French Revolutionary*, p. 196.

³⁰ Landers, *The Field and the Forge*, pp. 202, 324.

³¹ Thomas, *The Iron Way*, p. 88. For a nuanced assessment that demonstrates some of the limits to the impact of railroads on war in Europe during the post-Napoleonic era, see van Creveld, *Supplying*, pp. 75–95.

efforts to increase the size and mobility of armies pushed against the hard limits on productivity in a largely agrarian society. This convergence of expanded human ambition and persistent natural limits produced a demographic catastrophe that drained French manpower throughout the Napoleonic era. While precise death tolls are impossible to obtain given the fragmentary nature of available records, historian Micheal Clodfelter's comprehensive review of research on the subject suggests a total of 306,000 deaths in battle among French forces during the Napoleonic Wars, out of an estimated total of 1 million total deaths.³² This suggests that roughly two-thirds of French deaths in the conflict occurred as a result of "natural" causes such as hunger, exposure, and above all, epidemic disease, all of which were shaped by the "forces of nature" but ultimately a product of human actions, and particularly the marching orders that sent millions of recruits into the unhealthy and often deadly conditions of army camps. Even amidst an intensifying culture of "total war," for most French recruits during these years, the most lethal threats emerged from the daily realities of life on the march.

Agents of Friction

The movements of people, animals, materials, and microorganisms constitute a central contributing factor to the military phenomenon that Prussian theorist Carl von Clausewitz influentially labeled as "friction," which he described as "a force that makes the apparently easy so difficult" in warfare. Clausewitz captured the fundamental complexity of this "friction" by depicting it as "force that theory can never quite define," yet perhaps his most revealing attempt at analyzing the phenomenon is the statement that "action in war is like movement in a resistant element." Discussion of movement pervades Clausewitz's analysis of war. In one of his most detailed depictions of "friction," Clausewitz asks readers to imagine "a traveler who late in the day decides to cover two more stages by nightfall." While this might prove an "easy trip" when undertaken "on a paved highway with relays of horses," in Clausewitz's scenario, the unfortunate voyager finds "no fresh horses, or only poor ones; the country grows hilly, the road bad, night falls, and finally after many difficulties he is only too glad to reach a resting place with any kind of primitive accommodation." While this imagined scene used metaphor to illustrate the concept of "friction," Clausewitz also included numerous practical depictions suggesting the centrality of everyday mobility to his understanding of war, examples no doubt derived from his own experiences in the Napoleonic Wars. These references to movement appeared at multiple levels, ranging from

³² Clodfelter, *Warfare*, 171.

tactical recommendations like his warning that “normally both sides are already physically tired when they go into battle, since the movements directly preceding an engagement are usually of a very strenuous kind,” to more general principles related to operational movements, such as his advice that changes to an army’s line of communications will produce “a greater limitation on mobility and a greater vulnerability to envelopment.”³³ Clausewitz perceptively conceptualized “friction” as a multi-faceted phenomenon, but his analysis of its impact on war reveals that many of its most significant effects centered around the varied forms of movement that occurred on campaign.

Closer analysis of “friction” as a product of mobility is particularly relevant to scholarship on the complex relationship between war and the natural environment. As historian Lisa Brady shows, Clausewitz’s concept of “friction” has major potential for the environmental history of war, serving as a reminder that “wars may be planned on paper, but they are fought in nature.”³⁴ Treating the roads of the Napoleonic era as “militarized landscapes” provides an ideal opportunity to better scrutinize the role of “friction” in warfare. Clausewitz often noted the impact of natural features on various forms of “friction” for armies on the march, such as his statement that “military movements are practically impossible in heavily wooded country,” or his warning that a commander crossing a river “is usually limited to a single bridge, so unless he stays close to the river his actions will be severely hampered.” Clausewitz provided particularly evocative depictions of the physical effects of military movement on soldiers, portraying a form of “friction” that lined the roads with the sick and dying wherever armies marched. Thus, Clausewitz emphasized the difference between a soldier “falling ill indoors” and doing so when “on the open road, mired in mud and loaded down by his pack.” As Clausewitz no doubt cited from experience, in such cases, a soldier in the ranks who could no longer keep up with the army might be forced to remain “by the road for hours on end without any relief whatsoever and then must drag himself along as a straggler for miles.” Invoking the image of “thousands of soldiers, poorly clad, their shoulders bent under thirty or forty pounds of equipment, plodding along for days on end in every kind of weather and on every kind of road, continuously endangering their health and their lives, without even a crust of bread to nourish them,” Clausewitz described the “damaging effects of marches” as a major factor in warfare, with significance comparable to that of the battles themselves.³⁵ For a comprehensive analysis of the role of “friction” in warfare, we must therefore look

³³ Clausewitz, *On War*, pp. 248, 263, 346.

³⁴ Brady, “Nature as Friction,” p. 147.

³⁵ Clausewitz, *On War*, p. 322, 331, 334, 339, 349, 532.

closely at roads as “militarized landscapes,” which generated suffering and death on a scale that inexorably shaped the outcomes of the great campaigns of this era.

Acknowledging the role of environmental factors in the “friction” of war requires closer scrutiny of the everyday realities of life and death for the individuals caught up in the conflict. A complete history of this momentous event can only emerge through research into the daily experience of participants, and historian Marie-Cecile Thorald has perceptively emphasized that this requires scholars to “consider the history of the body,” as war “both on and off the battlefield, is above all else a physical ordeal.”³⁶ This line of analysis is further enhanced through the insights of environmental history, which has shown that human bodies can be profoundly impacted by their contact with nature at multiple levels. As historian Linda Nash notes, “when we recognize that human bodies are directly affected by their environments, we are forced to acknowledge that humans are not simply agents of environmental change but also objects of that change.”³⁷ An additional source of insight emerges from the “new mobilities paradigm,” which stresses the importance of tracing mobility at the level of everyday life in order to understand broader trends in the history of movement and migration. As historian Mimi Sheller notes in an overview of the field, this emerging paradigm seeks to incorporate research that “ranges from the individual body up to the most complex systems.”³⁸ The rich historical records generated by the Napoleonic Wars offer a valuable opportunity to apply the insights advanced by these dynamic fields of scholarly analysis. Closer scrutiny of “micro-mobility” among both human and non-human actors in this conflict reveals the fundamental patterns behind the “forces of nature” that proved so lethal wherever armies marched.

The story of movement in the Napoleonic wars does not come to an end when troops reached their destinations to assume stationary positions in camps, fortresses, and barracks. Even when armies remained immobile, the soldiers in their ranks engaged in myriad forms of daily movement that profoundly shaped their life in the camps, as well as their interactions with the natural environment. Historians Paul Nelles and Rosa Salzberg have recently provided a useful framework for conceptualizing these various forms of mobility, based on the distinction between “movement through space” and “movement in place.” While “movement through space” describes the episodes of long-distance migration that often attract the attention of scholars, closer attention to “movement in place” allows historians to capture the various types of “embodied movement and localized forms of mobility”

³⁶ Thorald, *From Valmy to Waterloo*, p. 72.

³⁷ Nash, *Inescapable Ecologies*, p. 8.

³⁸ Sheller, *Advanced Introduction*, p. 36.

that occur even when the subject remains in one location.³⁹ This study examines both “movement through space” and “movement in place” to depict the Napoleonic Wars as a vast tableau of continuous motion. Whether in camps or on the march, soldiers of this era experienced war largely as a series of daily movements, and this mobility profoundly shaped their views on the conflict, their interactions with non-combatants, and their encounters with the natural environment. In this context, the emerging culture of “total war” played out most evidently in the relentless dynamic of “total mobilization,” which moved unprecedented numbers of troops and supplies to the frontlines while subjecting the armies to punishing forced marches in support of increasingly bold operational maneuvers. This dynamic took a heavy physical toll on the recruits, inflicting a brutal process of attrition that carried profound implications for grand strategy while unfolding as a stark tragedy for millions of soldiers who found themselves along the lines of march.

A focus on roads as “militarized landscapes” also allows us to extend Clausewitz’s insights on “friction” to the home front, supporting a perspective that scrutinizes the intricate links between the frontlines and civilian communities. The wartime experience was never simply a matter of mobilizing recruits to distant battlefields, but rather a continuous process of day-to-day mobility that kept people, animals, and microorganisms in circulation across a vast network that encompassed army camps, supply depots, and, ultimately, civilian communities. These movements carried profound implications for the ongoing conflict, raising the possibility that war’s lethal consequences might spread into the homes of non-combatants. Closer analysis of this dynamic allows for closer analysis of the impacts of warfare upon civilian populations in this era. In a comparative study of seventeenth-century conflicts in England and Germany, historian Quentin Outram emphasizes the role of “civilian refugee fluxes” in shaping the death rates among non-combatants, concluding that “the decision to flee, while often preserving life in the short term, had clear adverse implications for the medium-term risk of mortality.”⁴⁰ This analysis suggests the importance of movement as a factor in civilian suffering during wartime, an insight that can be further advanced with the tools of environmental history. Historians applying the concept of “co-production” have begun to recognize military forces as a source of the lethal conditions that were previously ascribed to the “forces of nature.” As historian Emmanuel Kreike notes, thanks to “poor sanitation, malnutrition, and exposure,” the armies of this period might be aptly described as “mobile and self-replicating arsenals of biological warfare.”⁴¹ My research places particular emphasis on the nuanced ways in which mobility

³⁹ Nelles and Salzberg, “Movement and Mobility,” pp. 11–12.

⁴⁰ Outram, “Demographic,” p. 246.

⁴¹ Kreike, *Scorched Earth*, p. 7.

contributed to this threat, demonstrating that the incidence of sickness and death revolved not simply around the large-scale movements of armies, but also in the everyday circulations of a vast array of human and non-human agents through army camps and civilian communities alike.

Wartime movements entailed daily contact with the “forces of nature,” a connection that was ultimately responsible for most of the suffering and death that unfolded on a vast scale among both combatants and non-combatants in these grim years. A full accounting for this outcome requires recognizing the various non-human actors in this process and acknowledging their active agency in human events. The analysis draws from the “neo-materialist” approach advocated by historian Timothy LeCain, who emphasizes that humans “are far more embedded in the material world around us than previously understood,” and that this material world is in turn “far more dynamic and creative than previously understood.”⁴² These insights raise the challenge of writing histories that fully account for the nuanced historical agency of non-humans, an effort which can benefit substantially from a closer focus on mobility as a historical phenomenon. Several innovative recent works have shown the value of such focus. In the dynamic subfield of animal history, historian Sandra Swart has recently called for a greater focus on “animobility” as a means of capturing the agency which animals exercise through their various forms of movement. Similarly, a recent volume by historians Francesca Bray, Barbara Hahn, John Bosco Lourdasamy, and Tiago Saraiva traces the role of “moving crops,” a concept that describes the wide geographical circulation of various plants, thus emphasizing the centrality of mobility even for organisms rooted in the soil.⁴³ My study builds upon these insights through a closer analysis of animal and plant agency in the Napoleonic Wars, emphasizing the value of a comparative approach to understanding the historical impact of non-human mobility. Animals occupied a central place in military logistics precisely because they could move on their own power, thus alleviating the costs of transport to the war zone. By contrast, mobilization of plant resources proved daunting thanks to their stationary character, which necessitated costly efforts to move food and other vital supplies from the fields to the front. Each actor thus played a distinct role in the conflict as

⁴² LeCain, *Matter of History*, p. 125.

⁴³ Swart, “Reviving Roadkill?”; Bray et al., *Moving Crops*. For a recent analysis of scholarship on animal agency in history, see Pearson, “History.” For additional studies relevant to the environmental history of transportation and mobility, see Sutter, *Driven Wild*; Wells, *Car Country*; Zeller, *Consuming Landscapes*; McShane and Tarr, *The Horse in the City*; Greene, *Horses at Work*; Mitchell, *Horse Nations*. For research on the environmental dimensions of mass migration in history, see Armiero and Tucker, eds., *Environmental History* and Nobbs-Thiessen, *Landscape and Migration*. For regional studies on environment and mobility in India and Canada, respectively, see Rangarajan and Sivaramakrishnan, eds., *Shifting Ground* and Coates, Young, and Bradley, eds., *Moving Natures*.

it unfolded, but in all cases, the impact of non-human organisms on human history was defined in fundamental ways by their diverse forms of movement.

Microorganisms exercised a particularly nuanced form of agency in the Napoleonic Wars. As historian Kyle Harper notes in a comprehensive study of infectious disease in history, closer scrutiny of the impact of microbes on human societies reveals an intricate balance in which the “rules of ecology and evolution still apply to us, but our history influences ecology and evolution in uniquely powerful ways.”⁴⁴ Placing mobility at the center of our analysis opens a distinctly valuable line of inquiry in this context, allowing us to better recognize the complex ways in which the patterns of human mobility create opportunities for the circulation of microparasites, and those pathogens in turn shape human movements. This dynamic becomes particularly apparent in wartime conditions, as the demands of mobilization and the disruptive impact of armies on the march produce new and potentially lethal opportunities for pathogenic microbes to find their way into their human and animal hosts. Analysis at this level is possible thanks to the rich documentary record generated by the Napoleonic Wars, and particularly the many detailed medical studies produced by army doctors. Given the state of medical knowledge at the turn of the nineteenth century, using these sources to identify specific pathogens can be challenging. Medical experts of this era drew upon several competing paradigms to explain epidemic disease, with some placing greater emphasis on “miasmas” emerging from the physical environment, and others citing various forms of contagion.⁴⁵ The role of microorganisms in disease, as well as the part played by the various vectors that allow for their transmission between hosts, thus eluded the doctors who treated the sick of Napoleon’s armies. Nonetheless, these experts carefully observed the conditions that brought infected soldiers to their hospitals and provided detailed records of the disease outbreaks that they encountered, and the documents that they produced offer substantial opportunities to assess the afflictions of the era through the lens of our modern awareness of pathogen biology. As historian Jim Downs notes of the era more broadly, military camps in the nineteenth century created “crowded conditions that helped physicians visualize the spread of disease.”⁴⁶ A closer look at the evidence from the Napoleonic Wars reveals that the circulation of microbes through the ranks followed patterns established by human movements, as marching orders

⁴⁴ Harper, *Plagues*, p. 5.

⁴⁵ On the development of ideas around disease causation in France during this era, see Brockliss and Jones, *Medical*, pp. 750–752; E.A. Heaman, “The Rise and Fall.” On the history of contagion more broadly, see Pelling, “The meaning”; DeLacy, *Contagionism*; Wilson, “On the History”; Worboys, “Contagion,” pp. 71–80.

⁴⁶ Downs, *Maladies*, p. 3.

put soldiers into daily contact with myriad sources of infection. Non-human agents thus exercised a profound agency over the miseries of war and constituted a leading source of “friction” during these years of upheaval, but their role should not obscure the responsibilities of human actors whose wartime decisions left soldiers scattered along the roadways, suffering from the effects of some of history’s most lethal diseases.

While the suffering that unfolded along the path of marching armies throughout the Napoleonic Wars revealed significant vulnerabilities in the face of environmental hazards, the history of this era is not solely a story of human powerlessness against the “forces of nature.” Even in the absence of modern scientific understandings of meteorology, nutrition, and microbial infection, experts of this era could recognize the underlying conditions that contributed to the toll of exposure, hunger, and disease in the ranks. Such knowledge opened the possibility for concerted efforts to minimize the risks that environmental factors posed to human health. Throughout these long years of conflict, army commanders, administrators, and doctors sought to implement measures aimed at controlling disease outbreaks and ensuring adequate provision of food and shelter, in the hope of alleviating the miseries that followed in the wake of armies on the march. However, in the disruptive conditions of large-scale military campaigning, such exertions proved to be imperfect at best, occasionally contributing to healthier conditions among the soldiers and civilians caught up in the conflict, but often falling short amidst the strains of war and the volatile rhythms of nature. This outcome ultimately reflects a reality perceptively captured by John McNeill, who observes, aptly paraphrasing Karl Marx, that “people made their own history, but they did not make it as they please because ecology would not let them.”⁴⁷ These limits to human agency in nature come into sharper focus when we view our relationship to the environment through the prism of movement. Above all, efforts to mitigate the harmful environmental consequences of war faltered in the face of the fundamentally erratic day-to-day mobility of people, animals, and microorganisms along the routes leading to and from the front. Death came in many forms during the Napoleonic Wars, but the episodes of mass mortality that marked this brutal conflict are best understood as part of a vast series of movements that transformed the roads traversed by armies into “militarized landscapes” lined with corpses.

⁴⁷ McNeill, *Mosquito Empires*, p. 5.

Sources and Structure

The Napoleonic Wars generated an extensive body of historical evidence, both archival and published. My study draws primarily on archival sources from France and Italy, as well as firsthand accounts published both during and after the wars. These sources cover a wide range of military campaigns waged across Europe and in more distant theaters of war in the Caribbean and eastern Mediterranean. My most significant body of sources are military records maintained by the *Service Historique des Armées de la Défense*, located in Vincennes, France. I have looked particularly closely at two series in this collection, which provide extensive evidence related to the French campaigns in Italy and the Vendée insurgency in France. These collections include hundreds of orders and reports with extensive references to army movements. I also draw upon these archives for invaluable documentation related to military hospitals throughout the conflict. Additionally, I make use of several collections at the *Archives Nationales* in Paris with direct relevance to the Napoleonic Wars, including reports from military administrators in every theater of the conflict, private papers and service records for several veterans of the conflict, and official documentation on war-related disease outbreaks. To capture the impacts of military mobilization on the home front, I use sources from various local *Archives Departementales* in France and *Archivi di Stato* in Italy. I also make use of two manuscript collections at the *Bibliothèque Nationale* in Paris, which include the papers of Nicolas Desgnettes, an army doctor who served in France, Italy, and Egypt, and General Paul Grenier, an officer active in several campaigns in Europe. Taken together, these archival sources provide a wealth of data concerning the experiences of life on campaign in the Napoleonic era, which I use to reconstruct the nuanced patterns of day-to-day mobility in the armies and analyze in depth the myriad ways in which participants interacted with the natural environment.

In addition to archival research, I make use of dozens of published documents. These include extensive reports on disease outbreaks published by army doctors. Although these doctors did not possess our modern understanding of the causes of disease, they nonetheless provided nuanced accounts of the outbreaks in question, often observing in detail the ways in which everyday experience of movement on campaign impacted army health. I also make use of the significant quantity of firsthand accounts and memoirs published by veterans of the conflict. Some of these documents were written shortly after the campaigns which they describe, while others were published years or decades after the conflict ended. Such accounts must be treated with caution due to the distorting effects of incomplete memory and the self-serving nature of many such publications. Nonetheless, these documents are invaluable for understanding the experience of mobility on campaign. While retrospective accounts are often inaccurate when describing specific events

on the battlefield, they also contain extensive references to life on the road which can be taken as a broadly accurate portrayal of everyday experience. The authors of these accounts are overwhelmingly European and male, reflecting the realities of military participation in French armies of this period. Nonetheless, these sources contain many complex references to women and non-Europeans who also played important roles in the conflict, and I discuss these experiences as the sources allow. Overall, the vast array of published and archival material relevant to the Napoleonic Wars allows us to understand the daily experience of participants in these campaigns at a level that is rare for pre-modern conflicts. Many of these sources have been used by historians, but with a focus tending to cover either the battlefield or the home front. Reading these sources for evidence of the role of mobility in these conflicts opens a new perspective on familiar topics, allowing us recognize roads as “militarized landscapes” and thus significantly enhancing our ability to trace the deep historical links between war and the environment.

This book traces the environmental history of military mobility in the Napoleonic Wars through six chapters divided into three parts. The chapters proceed in a roughly chronological fashion, although the focus is on understanding the day-to-day environmental realities of movement in the conflict, rather than narrating military and political events. Taken together, these chapters cover the entire period from the start of the fighting until the collapse of Napoleon’s regime in 1814. Although scholars often treat the initial fighting of the 1790s as a distinct conflict, the “French Revolutionary Wars,” I generally label this entire conflict as the “Napoleonic Wars” or the “Napoleonic era.” In addition to convenience, this decision is based on the recognition that many of the fundamental patterns of everyday military mobility, army health, and wartime interaction with nature remained consistent throughout these long decades of fighting. The first two chapters examine the early years of the conflict during the 1790s to establish the basic patterns of military movement that emerged with the start of the fighting and illustrate the lethal consequences of mobility for soldiers and civilians caught up in the war. Chapter One, “The Momentum of War,” analyzes mobilization for war as an environmental event. The sections of this chapter trace the experiences of mobilized soldiers as they marched into new landscapes, while also describing the vast movements of animals and materials that were at the center of the war effort. Historians of the Napoleonic era have long debated a diverse range of ideological and geopolitical causes for the wars, but as I emphasize, once the fighting started, the environmental realities of army mobilization created a momentum of their own. Chapter Two, “Lethal Velocities,” traces the deadly effects of army mobility for soldiers and civilians. The sections of this chapter examine the impacts of exposure to the elements, persistent malnutrition, and infectious disease in armies on the march, as well as among the populations caught in their wake. These forces took

their toll in all theaters of war, but the scale and intensity of the suffering shifted in different times and places according to the patterns of day-to-day mobility in the ranks. As these chapters demonstrate, the environmental consequences of military movement played a central role in shaping the patterns of conflict unleashed by the French Revolution. Military mobilization turned the roads of France and its neighbors into “militarized landscapes,” and the conduct of campaigns hinged on the misery, sickness, and death that accompanied this transformation.

The second part of the book expands our understanding of the environmental consequences of army mobilization through detailed case studies of two campaigns selected for their military and political significance. Chapter Three, “Insurgent Movements,” focuses on the counter-revolutionary Vendée insurrection, which broke out in western France in early 1793 and led to suffering and death on a scale not seen in any other part of the country during the bloody “reign of terror.” The sections of this chapter examine the ways in which army movement through the rural countryside shaped the fighting and the distinctly lethal episodes of starvation, exposure, and epidemic disease that occurred during the conflict. While the Vendée rebellion is largely remembered as a guerilla war, which is what it became after 1794, during the first year of the fighting, both sides mobilized mass armies, and as a result the French homeland itself witnessed the sickness and death that accompanies armies on the march, with tens of thousands of corpses strewn along the roads. Chapter Four, “Paths to Glory,” analyzes Napoleon Bonaparte’s first Italian campaign of 1796–1797 to better understand the development of military strategy amidst the intensifying spiral of suffering unleashed by mobilization. The sections of this chapter examine the conditions of misery and disease that prevailed among French troops along the Italian frontier before Napoleon’s arrival, as well as the ways in which Napoleon used aggressive forward advances to alleviate the material sufferings of his army. While the Army of Italy remained largely stationary in the years before Napoleon took command, the challenges of day-to-day mobility in its mountain camps created the ideal conditions for starvation and sickness, and Napoleon’s brilliant advance beyond the frontier in 1796 was significant above all as a model for ending such suffering with bold movements into enemy territory. Taken together, these chapters illustrate an emerging strategic imperative that developed out of the disruptions associated with army mobilization during the chaotic fighting of the 1790s. Episodes such as the Vendée conflict demonstrated that the “militarized landscapes” produced by armies on the march led inexorably to sickness and death on a terrifying scale, while Napoleon established a strategy for addressing this threat by displacing the lethal effects of army mobility into foreign lands.

The final part of the book examines the course of events following the conclusion of Napoleon's first Italian campaign in 1797, using a closer focus on the mobility of the microorganisms responsible for bubonic plague, typhus, yellow fever, malaria, and equine glanders to trace the rise and fall of Napoleonic hegemony in Europe. Chapter Five, "Routes of Infection," examines major outbreaks of some of history's most notorious infectious diseases during the tumultuous years at the turn of the nineteenth century. Napoleon's attempt to repeat his formula of conquest through rapid advance brought his army into contact with bubonic plague in Egypt, with the lethal toll serving as a stark reminder of the costs of aggressive military strategy. Meanwhile, defeats in Italy sent French armies retreating toward the frontiers, raising the specter of typhus, or "camp fever," spreading from miserable army encampments to the home front. However, Napoleon's return from Egypt to win further victories in Italy spared France from the worst effects of wartime epidemics, and his increasingly centralized state apparatus gained further credibility through extensive measures to prevent the spread of a yellow fever outbreak unleashed in the fighting that followed a slave revolt and imperial warfare in the Caribbean. Chapter Six, "Afflictions of Empire," focuses on the later stages of the Napoleonic era, as French hegemony in Europe reached an unprecedented apogee before collapsing in a wave of unspeakable violence and death. Napoleon's victories initially provided France with a welcome respite from the miseries of campaigning and even gave French doctors and administrators a chance to contemplate disease-control measures in the areas under their control, including efforts to tackle endemic malaria in Italy. Yet imperial expansion also generated new "friction," perhaps most significantly in the widespread but largely unnoticed impact of equine glanders, a lethal disease that emptied the stables of the horses whose mobility was so crucial to the continued success of Napoleon's war machine. Such strains left French armies increasingly vulnerable to defeats at the far-flung corners of their empire, with the ultimate result that Napoleon's desperate effort to fight off an enemy invasion in 1814 ended with the return of marching armies to French soil, along with the dreaded typhus that followed inexorably in their wake. The rise and fall of Napoleon's empire thus hinged upon the movements of a wide range of human and non-human actors, shaped at every stage by the complex "militarized environments" that emerged along the roads traversed by Napoleonic armies on the march.