Introduction to volume IV

The period covered in this volume, from about 1850 until the dawn of the twenty-first century, was the most belligerent in human history. More people were involved in the preparation and prosecution of warfare, and more men, women, and children fell victim to military violence than in all previous eras put together. The period since 1850 is the era of modern war. It can be considered under three headings, as the age of mass, the age of machines, and the age of management.

The age of mass is the principal subject of Part I of this volume. The dramatic growth of military capacity involved creating and sustaining not only the largest armies in history, but also the most complex and demanding societies. Size and complexity were products of the Industrial Revolution. Developments in farm technology and steam transportation created a global agricultural revolution, which enabled large-scale transfers of young men to barracks and battlefields. Weapons and uniforms became items of mass production. Telephones, telegraphs, and typewriters made increased control possible, keeping mass armies from becoming armed hordes.

This last achievement reflected the advance of administrative skills. The late nineteenth century was an age of bureaucratization – of expanding, standardizing, and enforcing policy. To borrow Charles Tilly's phrase, bureaucratization transformed both states and armed forces from wasps to locomotives, focusing and extending their structural capacity to sustain war without imploding.

The third necessary element of mass war was soldiers – of a particular kind. Industrialization and bureaucratization enhanced the risk and sacrifice of combat, as they diminished the prospect of direct material or moral reward. These developments created the need for willing participants – a requirement that was fulfilled by nationalism, reciprocity, and a new kind of moral reward. Nationalism fostered group identification and rationalized participation. Reciprocity reflected the growing ability of governments to requite military

service with social services, such as schools, post offices, public utilities, pensions, and education. Even conscription could seem like a fair exchange, particularly when service confirmed the formal and informal adult status of males, both as citizens and men.

The wars of the mid nineteenth century – the Crimea, the American Civil War, the wars of Italian and German unification – were what one might call chrysalis conflicts. They juxtaposed muzzle-loading small arms, cavalry charges, and amputation without anesthesia to railroads and telegraphs, breech-loading cannon, and antiseptic surgery. In each of these wars, tradition made place for technology, albeit not always smoothly. In each case as well, war became grimmer and dirtier. "Hard war," which aimed at crushing civilian will to resist, was christened by the Union general W. T. Sherman and adopted with zeal by German armies in 1870–71. Although the Battle of the Nations in Leipzig in 1813 retained the blood palm with some hundred thousand casualties in three days, Gettysburg, where thirty thousand fell casualty in the same time-span, and Gravelotte–St.Privat, with over thirty thousand casualties in twenty-four hours, were hecatombs by any standards, grim harbingers of events to come.

For over forty years after German unification, Europe avoided general war. This long peace was due less to a conscious retreat from the abyss than to the shrinking of the continent's intellectual and psychological dimensions. Industrialized transportation and communications made states increasingly aware of each other's military advances and correspondingly conscious of their own shortcomings. The result was that the armed forces of the great powers – although not smaller states like Denmark, Holland, and Switzerland – became increasingly symmetrical; they engaged in arms races that failed to alter the status quo but exponentially increased the consequences of a breakdown.

Europe was not the only region that shrank as the century progressed. A portent of mass war was the increasing ability of states to project, sustain, and utilize power externally for purposes of conquest. The newly created colonies of Africa and Asia were governed in a variety of ways, but they were ultimately ruled by force. This situation involved a paradox. Europe still lacked the power to wage mass war everywhere. The result was an imperial project that remained incomplete, offering enough advantages to generate indigenous elites as mediators.

World War I of 1914–18 proved to be a "Grand Illusion." The initial encounters alone produced casualty lists unmatched in any other stage of the conflict. For four years the combatants vied with each other in seeking

quick fixes and ways around the stalemate, particularly on the western front. Gas, tanks, and submarines, Gallipoli and eleven battles of the Isonzo bore witness to the combatants' ingenuity, as well as to their frustration. The Somme, Verdun, Passchendaele, the German offensives of 1918 affirmed the fall-back position of using mass war to swing bigger hammers.

Not until the summer of 1918 did the British Expeditionary Force implement the combined-arms, semi-mobile battle, which synergized mass and management, shock and technology, and was held together by a still rudimentary but adequate communications system. This harbinger of the future, and its French and American variations, were enough to finish a German army exhausted by its own earlier victories.

Military success was not sufficient, however, to still the forces that had been liberated by the guns of August 1914. Years of military occupation, the disappearance of historic state systems, and the effects of general military service had dissolved certainties. These had been replaced in Europe, the Middle East, and throughout the colonial world by aspirations and ambitions that defied compromise. The European mystique had been shaken to its foundations by the consequences of total war.

At the same time, efforts to establish alternatives to conflict after World War I, whether by principles or institutions, proved ephemeral. The League of Nations neither generated trust nor inspired fear. For all the rhetoric that another great war meant the end of civilization, military leaders remained skeptical and put their trust in devising better ways of conflict. Initially the dominant approach was to refine mass war. The French brought the concept of managed battle to an art form. In Germany Erich Ludendorff called for permanent, total national mobilization – the virtual conflation of peace and war. The new Soviet Union added state and international mobilization through revolutionary ideology.

At the same time, however, refinements in technology offered a new spectrum of force-multipliers, as the military age of the machine dawned in the 1920s. The basics lay in the internal-combustion engine and the radio. Germany is usually credited with initiating technology-focused war. In fact, innovations introduced under the Weimar Republic and its National Socialist successor were parts of a general process. There were other heavy players – Italy to the limits of its capacity, the Soviet Union to the detriment of its economy, Great Britain as far as its imperial commitments allowed. And with an army based on a comprehensive mixture of "gasoline and manure," France was in principle no less successful than Germany.

The challenge lay in application. And here the initial German successes of 1939–41 continue to obscure the limitations of high-tech war. Machines exponentially expanded war's destructive capacity, diminishing the already limited role of foot-soldiers. But individually machines were limited, too. They were most effective in mass, as operations such as the combined bomber offensive against Germany and the Soviet counterattack on the eastern front in 1943–45 revealed. One might even suggest a positive synergy between machines and morality. The Axis predators sank ever deeper into infamy. Among their enemies, concern for decent, lawful conduct survived, if tenuously, on the margins of conflict. The victors' visions of the future differed significantly. None, however, was, in the words of George Orwell, of "a boot stamping on a human face – forever."

This fact shaped the third age of modern war, the age of management. Since 1945, war has taken protean forms. Of strategy's three elements – ends, means, and will – the last has taken center stage. The Cold War was based on ideological principles, but it was pragmatic in practice, as much propaganda contest as military conflict. It involved an increasingly symmetrical matching of force between the superpowers, but it evolved into mutual feints and challenges not merely at a sub-nuclear, but a sub-violent level. While it was always a threat, armed engagement was never implemented, at least not directly between the two main contenders. Incidents were mutually processed as isolated phenomena. Mid-level conventional wars, such as those in Korea, between India and Pakistan, Muslims and Israelis, Iran and Iraq, were characterized by radical rhetoric but limited execution without the will to develop the means for a fight to the finish.

Insurgencies have been more complex; and they have illustrated the limits of machine war. Mao Zedong's victory over the Chinese Nationalists, like North Vietnam's triumph in the South, represented a total victory, although the issue of Formosa or Taiwan has yet to be resolved and North Vietnam's manipulation of the United States was also a magnificent exercise in management. The national liberation struggles that dominated the 1950s and 1960s were based in the first instance on a negative imperative: the colonial powers were to "go away." The wars were managed to this limited end, however absolute the methods.

Asymmetric war, the most recent manifestation of military conflict, grew out of insurgency. Its purpose has been to exploit systematically and comprehensively over a long term the vulnerabilities of an irreversibly stronger adversary. Its aims have been more susceptible to interpretation in absolute terms. Its conduct has seemed to be transdimensional, insofar as the

antagonists in it have been able to feel each other, but not decisively. Yet asymmetric war, too, has involved mutual managerial approaches. Each participant has been uncertain about how far, and in what ways, the other can be pushed without generating an extreme response. Sparring-matches rather than death-grapples have been the usual response, as management on both sides has sought limitation.

In less than three-quarters of a century, war-making has proceeded in an arc, first toward total war, then toward something much more tentative. Perhaps this retreat represents an approach to the abyss and pulling back. Or perhaps Clio has a sense of irony.

PART I

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THE INDUSTRIALIZATION OF WARFARE, 1850–1914

Introduction to Part I

HANS VAN DE VEN

> "If this war breaks out, then its duration and its end will be unforeseeable. Woe to him who sets Europe alight" – Helmuth von Moltke (1890)

Part I of this volume on the modern period in the *Cambridge History of War* opens with the massive conflicts that erupted in the United States, China, and Europe in the middle of the nineteenth century, including the American Civil War, the Taiping Rebellion in China, the Indian Rebellion, and the wars of German unification. They did not form part of a single world war, nor even of a generalized global crisis. They shared some common origins, including population growth, the spread of new ideologies such as nationalism, and a deepening agricultural crisis, and suggest that to speak of a long nineteenth century is myopic. They did form a rupture, which speeded up four key processes, namely industrialization, the disintegration of traditional empires outside Europe, nationalism, and the rise of the bureaucratic nation-state in Europe and Japan that enabled the total war of World War I.[1]

During this period, newly confident European elites believed that they were forging a path toward "Civilization," which would be marked by more inclusive polities, rapid technological and scientific change, a public realm in which people argued rationally and behaved respectfully, and efficient bureaucracies that worked for the common good. The march toward progress promised the end of corruption, unfair privilege, disease, poverty, disorder, and superstition, as well as the barbarous warfare of the past. In reality, the institutions, societies, and cultures that were created in pursuit of this illusion provided the mechanisms, loyalties, and institutions that made total war possible, even if they were not designed for this purpose.

1 For an excellent overview, see Christopher Bayly, *The Birth of the Modern World, 1780–1914* (Oxford, 2004), especially Parts II and III.

The mid-century wars, as Hans van de Ven explains Chapter 1, signaled the moment when industrialization began to affect warfare. Germany, France, and other European countries, including Russia, had begun to catch up with Britain. This was in part the story of new types of weapons, such as the rifle, the machine gun, high-explosive shells, and breech-loading artillery. European armies, too, became mobile because of the railroad and steamships, while the telegraph improved communication and coordination. The pace of change accelerated enormously. Before the mid nineteenth century, weapons had changed little for a century and a half. New production techniques that relied on interchangeable parts, the assembly line, and managerial planning enabled European states to reequip large standing armies with new weapons within years.

As Geoffrey Wawro argues in his chapter, industrialization triggered "the obsessive, competitive way in which each of the Great Powers had built vast armies, fleets, and infrastructures that all but ensured their mutual destruction." Wawro emphasizes that military leaders were unsettled by the primacy of *matériel* in warfare and continued to seek a place for the human factor – the genius of a Napoleon, the daring act, and troop morale. At least one reason why trench warfare became so murderous was that military leaderships held fast to the idea that the human will could overcome the walls of steel thrown up by modern artillery. In his chapter on the arms race among Germany, France, Britain, Russia, Japan, and the United States, Antulio Echeverria II stresses that each aimed not just to out-produce the others and gain a decisive advantage in mass, but also to develop new breakthrough weapons to achieve a decisive qualitative edge: "each party was endeavoring to create a similar situation to that of 1866 [in the Austro-Prussian War], when one enemy entered the arena with the needle-gun and the other armed with only a muzzle loader." The arms race was deeply political; it was used domestically, as a tool by militaries to gain higher budget shares and to maintain the prestige of the armed forces, as well as diplomatically, to achieve changes in international relations without having to fire a shot. The German naval build-up in the late nineteenth century was a gamble undertaken by Admiral Tirpitz to compel Britain to relocate parts of its navy to the North Sea and so enable Germany to acquire colonies.

The "rise of the west and the collapse of the rest" was the second main development during this period. European empires in 1800 claimed considerable territory, but their authority was superficial and restricted to coastal areas. Most parts of Asia, especially east Asia, were hardly affected. A century later, the British were in firm control of India, the French had