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Industrialization and the Shifting Global Balances, 1815-1885

The international system which developed in the half-century and more following Napoleon's downfall possessed an unusual set of characteristics, some merely temporary, while others became permanent features of the modern age.

The first was the steady and then (after the 1840s) spectacular growth of an integrated global economy, which drew ever more regions into a transoceanic and transcontinental trading and financial network centered upon western Europe, and in particular upon Great Britain. These decades of British economic hegemony were accompanied by large-scale improvements in transport and communications, by the increasingly rapid transfer of industrial technology from one region to another, and by an immense spurt in manufacturing output, which in turn stimulated the opening of new areas of agricultural land and raw-materials sources. The erosion of tariff barriers and other mercantilist devices, together with the widespread propagation of ideas about free trade and international harmony, suggested that a new international order had arisen, quite different from the eighteenth-century world of repeated Great Power conflict. The turbulence and costs of the 1793-1815 struggle—known to the nineteenth century as "the Great War"—caused conservatives and liberals alike to opt as far as possible for peace and stability, underpinned by devices as varied as the Concert of Europe or free-trade treaties. These conditions naturally encouraged long-term commercial and industrial investment, thereby stimulating the growth of a global economy.

Secondly, this absence of prolonged Great Power wars did not mean that all interstate conflict came to an end. If anything, the European and North American wars of conquest against less developed peoples intensified, and were in many ways the military concomitant to the economic penetration of the overseas world and to the swift decline in its share of manufacturing output. In addition, there still were regional and individual conflicts among the European powers, especially over questions of nationality and territorial borders; but, as

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we shall see, open struggles such as the Franco-Austrian War of 1859 or the wars of German unification in the 1860s were limited both in duration and area, and even the Crimean War could hardly be called a major conflict. Only the American Civil War was an exception to this rule, and deserves to be examined as such.

Thirdly, technology deriving from the Industrial Revolution began to make its impact upon military and naval warfare. But the changes were much slower than has sometimes been represented, and it was only in the second half of the century that railways, telegraphs, quick-firing guns, steam propulsion, and armored warships really became decisive indicators of military strength. While the new technology increased the lead in firepower and mobility which the Great Powers enjoyed in the overseas world, it was going to be many decades before military and naval commanders revised their ideas of how to fight a European war. Nevertheless, the twin forces of technical change and industrial development were steadily having an impact, on land and at sea, and also affecting the relative strengths of the Powers.

Although it is difficult to generalize, the shifts in the Great Power balances caused by the uneven pattern of industrial and technological change probably affected the outcome of mid-nineteenth-century wars more than did finance and credit. This was partly because the massive expansion of national and international banking in the nineteenth century and the growth of governmental bureaucracies (treasuries, inspectors, tax collectors) made it easier for most regimes to raise funds from the money markets, unless their credit rating was appallingly bad or there was a temporary liquidity crisis in the international banking system. But it was chiefly due to the fact that most of the wars which occurred were relatively short, so that the emphasis was upon a speedy victory in the field using existing military strength, rather than the long-term mobilization of national resources and the raising of fresh revenues. No amount of newly available funds could, for example, have saved Austria after its battlefield defeats of 1859 and 1866, or a very wealthy France after its armies had been crushed in the war of 1870. It was true that superior finances aided the North in its Civil War victory over the South, and that Britain and France were better able to afford the Crimean War than a near-bankrupt Russia—but that reflected the general superiority of their economies rather than the singular advantage they had in respect of credit and finance. For this reason, there is less to say about the role of war finance in the nineteenth century than there was about the previous period.

This cluster of factors—the growth of the international economy, the productive forces unleashed by the Industrial Revolution, the relative stability of Europe, the modernization of military and naval technology over time, and the occurrence of merely localized and short-term wars—naturally favored some of the Great Powers more

than others. Indeed, one of those countries, Britain, benefited so much from the general economic and geopolitical trends of the post-1815 era that it became a different type of Power from the rest. All the other countries were affected, often very seriously, in their relative strength. By the 1860s, however, the further spread of industrialization was beginning to change the balance of world forces once again.

One further feature of this period is worth mentioning. From the early nineteenth century onward, historical statistics (especially of economic indicators) help to trace the shifts in the power balances and to measure more accurately the dynamics of the system. It is important to realize, however, that many of the data are very approximate, particularly for countries lacking an adequate bureaucracy; that certain of the calculations (e.g., shares of world manufacturing output) are merely estimates made by statisticians many years later; and that—the most important caveat of all—economic wealth did not immediately or always, translate into military power. All that the statistics can do is give rough indications of a country's material potential and of its position in the relative rankings of the leading states.

The "Industrial Revolution," most economic historians are at pains to stress, did not happen overnight. It was, compared with the political "revolutions" of 1776, 1789, and 1917, a gradual, slow-moving process; it affected only certain manufactures and certain means of production; and it occurred region by region, rather than involving an entire country.¹ Yet all these caveats cannot avoid the fact that a fundamentally important transformation in man's economic circumstances began to occur sometime around 1780—not less significant, in the view of one authority, than the (admittedly far slower) transformation of savage Paleolithic hunting man to domesticated Neolithic farming man.² What industrialization, and in particular the steam engine, did was to substitute inanimate for animate sources of power; by converting heat into work through the use of machines—"rapid, regular, precise, tireless" machines³—mankind was thus able to exploit vast new sources of energy. The consequences of introducing this novel machinery were simply stupendous: by the 1820s someone operating several power-driven looms could produce twenty times the output of a hand worker, while a power-driven "mule" (or spinning machine) had two hundred times the capacity of a spinning wheel. A single railway engine could transport goods which would have required hundreds of packhorses, and do it far more quickly. To be sure, there were many other important aspects to the Industrial Revolution—the factory system, for example, or the division of labor. But the vital point for our purposes was the massive increase in productivity, especially in the textile industries, which in turn stimulated a demand for more machines, more raw materials (above all, cotton), more iron, more shipping, better communications, and so on.

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Moreover, as Professor Landes has observed, this unprecedented increase in man's productivity was self-sustaining.

Where previously an amelioration of the conditions of existence, hence of survival, and an increase in economic opportunity had always been followed by a rise in population that eventually consumed the gains achieved, now for the first time in history, both the economy and the knowledge were growing fast enough to generate a continuing flow of investment and technological innovation, a flow that lifted beyond visible limits the ceiling of Malthus's positive checks.⁴

The latter remark is also vitally important. From the eighteenth century onward, the growth in world population had begun to accelerate: Europe's numbers rose from 140 million in 1750 to 187 million in 1800 to 266 million in 1850; Asia's exploded from over 400 million in 1750 to around 700 million a century later.⁵ Whatever the reasons—better climatic conditions, improved fecundity, decline in diseases—increases of that size were alarming; and although agricultural output growth in Europe and Asia also expanded in the eighteenth century and was in fact another general reason for the rise in population, the sheer number of new heads (and stomachs) threatened over time to cancel out the benefits of all such additions in agricultural output. Pressure upon marginal lands, rural unemployment, and a vast drift of families into the already overcrowded cities of Europe in the late eighteenth century were but some of the symptoms of this population surge.⁶

What the Industrial Revolution in Britain did (in very crude macroeconomic terms) was to so increase productivity on a sustained basis that the consequent expansion both in national wealth and in the population's purchasing power constantly outweighed the rise in numbers. While the country's population rose from 10.5 million in 1801 to 41.8 million in 1911—an annual increase of 1.26 percent—its national product rose much faster, perhaps as much as fourteenfold over the nineteenth century. Depending upon the area covered by the statistics,* there was an annual average rise in gross national product of between 2 and 2.25 percent. In Queen Victoria's reign alone, product per capita rose two and a half times.

Compared with the growth rates achieved by many nations after 1945, these were not spectacular figures. It was also true, as social historians remind us, that the Industrial Revolution inflicted awful costs upon the new proletariat which labored in the factories and mines and lived in the unhealthy, crowded, jerry-built cities. Yet the fundamental point remains that the sustained increases in productiv-

*That is to say, some of the historical statistics refer to Great Britain (minus Ireland), some to the United Kingdom (with Ireland), and some include only northern but not southern Ireland.

ity of the Machine Age brought widespread benefits over time: average real wages in Britain rose between 15 and 25 percent in the years 1815–1850, and by an impressive 80 percent in the next half-century. "The central problem of the age," Ashton has reminded those critics who believe that industrialization was a disaster, "was how to feed and clothe and employ generations of children outnumbering by far those of any earlier time."⁷ The new machines not only employed an increasingly large share of the burgeoning population, but also boosted the nation's overall per capita income; and the rising demand of urban workers for foodstuffs and essential goods was soon to be met by a steam-driven communications revolution, with railways and steamships bringing the agricultural surpluses of the New World to satisfy the requirements of the Old.

We can grasp this point in a different way by using Professor Landes's calculations. In 1870, he notes, the United Kingdom was using 100 million tons of coal, which was "equivalent to 800 million million Calories of energy, enough to feed a population of 850 million adult males for a year (actual population was then about 31 million)." Again, the capacity of Britain's steam engines in 1870, some 4 million horsepower, was equivalent to the power which could be generated by 40 million men; but "this many men would have eaten some 320 million bushels of wheat a year—more than three times the annual output of the entire United Kingdom in 1867–71."⁸ The use of inanimate sources of power allowed industrial man to transcend the limitations of biology and to create spectacular increases in production and wealth without succumbing to the weight of a fast-growing population. By contrast, Ashton soberly noted (as late as 1947):

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There are today on the plains of India and China men and women, plague-ridden and hungry, living lives little better, to outward appearance, than those of the cattle that toil with them by day and share their places of sleep by night. Such Asiatic standards, and such unmechanised horrors, are the lot of those who increase their numbers without passing through an industrial revolution.⁹

The Eclipse of the Non-European World

Before discussing the effects of the Industrial Revolution upon the Great Power system, it will be as well to understand its impacts farther afield, especially upon China, India, and other non-European societies. The losses they suffered were twofold, both relative and absolute. It was not the case, as was once fancied, that the peoples of Asia, Africa, and Latin America lived a happy, ideal existence prior to the impact of western man. "The elemental truth must be stressed that the charac-

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 teristic of any country before its industrial revolution and modernization is poverty. . . . with low productivity, low output per head, in traditional agriculture, any economy which has agriculture as the main constituent of its national income does not produce much of a surplus above the immediate requirements of consumption. . . ." On the other hand, in view of the fact that in 1800 agricultural production formed the basis of both European and non-European societies, and of the further fact that in countries such as India and China there also existed many traders, textile producers, and craftsmen, the differences in per capita income were not enormous; an Indian handloom weaver, for example, may have earned perhaps as much as half of his European equivalent prior to industrialization. What this also meant was that, given the sheer numbers of Asiatic peasants and craftsmen, Asia still contained a far larger share of world manufacturing output* than did the much less populous Europe before the steam engine and the power loom transformed the world's balances.

Production Shift
 Just how dramatically those balances shifted in consequence of European industrialization and expansion can be seen in Bairoch's two ingenious calculations (see Tables 6-7).¹¹

The root cause of these transformations, it is clear, lay in the staggering increases in productivity emanating from the Industrial Revolution. Between, say, the 1750s and the 1830s the mechanization of spinning in Britain had increased productivity in that sector alone by a factor of 300 to 400, so it is not surprising that the British share of total world manufacturing rose dramatically—and continued to rise as it turned itself into the "first industrial nation."¹² When other European states and the United States followed the path to industrialization, their shares also rose steadily, as did their per capita levels of industrialization and their national wealth. But the story for China and India was quite a different one. Not only did their shares of total world manufacturing shrink relatively, simply because the West's output was rising so swiftly; but in some cases their economies declined absolutely, that is, they *de-industrialized*, because of the penetration of their traditional markets by the far cheaper and better products of the Lancashire textile factories. After 1813 (when the East India Company's trade monopoly ended), imports of cotton fabrics into India rose spectacularly, from 1 million yards (1814) to 51 million (1830) to 995 million (1870), driving out many of the traditional domestic producers in the process. Finally—and this returns us to Ashton's point about the grinding poverty of "those who increase their numbers without passing through an industrial revolution"—the large rise in the populations of China, India, and other Third World countries probably reduced their general per capita income from one generation to the next. Hence Bairoch's remarkable—

Table 6. Relative Shares of World Manufacturing Output,
 1750-1900

	1750	1800	1830	1860	1880	1900
(Europe as a whole)	23.2	28.1	34.2	53.2	61.3	62.0
United Kingdom	1.9	4.3	9.5	19.9	22.9	18.5
Habsburg Empire	2.9	3.2	3.2	4.2	4.4	4.7
France	4.0	4.2	5.2	7.9	7.8	6.8
German States/Germany	2.9	3.5	3.5	4.9	8.5	13.2
Italian States/Italy	2.4	2.5	2.3	2.5	2.5	2.5
Russia	5.0	5.6	5.6	7.0	7.6	8.8
United States	0.1	0.8	2.4	7.2	14.7	23.6
Japan	3.8	3.5	2.8	2.6	2.4	2.4
Third World	73.0	67.7	60.5	36.6	20.9	11.0
China	32.8	33.3	29.8	19.7	12.5	6.2
India/Pakistan	24.5	19.7	17.6	8.6	2.8	1.7

Table 7. Per Capita Levels of Industrialization,
 1750-1900
 (relative to U.K. in 1900 = 100)

	1750	1800	1830	1860	1880	1900
(Europe as a whole)	8	8	11	16	24	35
United Kingdom	10	16	25	64	87	[100]
Habsburg Empire	7	7	8	11	15	23
France	9	9	12	20	28	39
German States/Germany	8	8	9	15	25	52
Italian States/Italy	8	8	8	10	12	17
Russia	6	6	7	8	10	15
United States	4	9	14	21	38	69
Japan	7	7	7	7	9	12
Third World	7	6	6	4	3	2
China	8	6	6	4	4	3
India	7	6	6	3	2	1

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 and horrifying—suggestion that whereas the per capita levels of industrialization in Europe and the Third World may have been not too far apart from each other in 1750, the latter's was only one-eighteenth of the former's (2 percent to 35 percent) by 1900, and only one-fiftieth of the United Kingdom's (2 percent to 100 percent).

The "impact of western man" was, in all sorts of ways, one of the most noticeable aspects of the dynamics of world power in the nineteenth century. It manifested itself not only in a variety of economic relationships—ranging from the "informal influence" of coastal traders, shippers, and consuls to the more direct controls of planters, railway builders, and mining companies¹³—but also in the penetrations of explorers, adventurers, and missionaries, in the introduction of western diseases, and in the proselytization of western faiths. It occurred as much in the centers of continents—westward from the Missouri,

*Following, at least, the definition of "manufactures" that Bairoch employs (see note 11).

southward from the Aral Sea—as it did up the mouths of African rivers and around the coasts of Pacific archipelagoes. If it eventually had its impressive monuments in the roads, railway networks, telegraphs, harbors, and civic buildings which (for example) the British created in India, its more horrific side was the bloodshed, rapine, and plunder which attended so many of the colonial wars of the period.¹⁴ To be sure, the same traits of force and conquest had existed since the days of Cortez, but now the pace was accelerating. In the year 1800, Europeans occupied or controlled 35 percent of the land surface of the world; by 1878 this figure had risen to 67 percent, and by 1914 to over 84 percent.¹⁵

The advanced technology of steam engines and machine-made tools gave Europe decisive economic and military advantages. The improvements in the muzzle-loading gun (percussion caps, rifling, etc.) were ominous enough; the coming of the breechloader, vastly increasing the rate of fire, was an even greater advance; and the Gatling guns, Maxims, and light field artillery put the final touches to a new “fire-power revolution” which quite eradicated the chances of a successful resistance by indigenous peoples reliant upon older weaponry. Furthermore, the steam-driven gunboat meant that European sea power, already supreme in open waters, could be extended inland, via major waterways like the Niger, the Indus, and the Yangtze: thus the mobility and firepower of the ironclad *Nemesis* during the Opium War actions of 1841 and 1842 was a disaster for the defending Chinese forces, which were easily brushed aside.¹⁶ It was true, of course, that physically difficult terrain (e.g., Afghanistan) blunted the drives of western military imperialism, and that among non-European forces which adopted the newer weapons and tactics—like the Sikhs and the Algerians in the 1840s—the resistance was far greater. But whenever the struggle took place in open country where the West could deploy its machine guns and heavier weapons, the issue was never in doubt. Perhaps the greatest disparity of all was seen at the very end of the century, during the battle of Omdurman (1898), when in one half-morning the Maxims and Lee-Enfield rifles of Kitchener’s army destroyed 11,000 Dervishes for the loss of only forty-eight of their own troops. In consequence, the firepower gap, like that which had opened up in industrial productivity, meant that the leading nations possessed resources fifty or a hundred times greater than those at the bottom. The global dominance of the West, implicit since da Gama’s day, now knew few limits.

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Britain as Hegemon?

If the Punjabis and Annamites and Sioux and Bantu were the “losers” (to use Eric Hobsbawm’s term)¹⁷ in this early-nineteenth-century expansion, the British were undoubtedly the “winners.” As noted in the previous chapter, they had already achieved a remarkable degree of global preeminence by 1815, thanks to their adroit combination of naval mastery, financial credit, commercial expertise, and alliance diplomacy. What the Industrial Revolution did was to enhance the position of a country already made supremely successful in the pre-industrial, mercantilist struggles of the eighteenth century, and then to transform it into a different sort of power. If (to repeat) the pace of change was gradual rather than revolutionary, the results were nonetheless highly impressive. Between 1760 and 1830, the United Kingdom was responsible for around “two-thirds of Europe’s industrial growth of output,”¹⁸ and its share of world manufacturing production leaped from 1.9 to 9.5 percent; in the next thirty years, British industrial expansion pushed that figure to 19.9 percent, despite the spread of the new technology to other countries in the West. Around 1860, which was probably when the country reached its zenith in relative terms, the United Kingdom produced 53 percent of the world’s iron and 50 percent of its coal and lignite, and consumed just under half of the raw cotton output of the globe. “With 2 percent of the world’s population and 10 percent of Europe’s, the United Kingdom would seem to have had a capacity in modern industries equal to 40–45 percent of the world’s potential and 55–60 percent of that in Europe.”¹⁹ Its energy consumption from modern sources (coal, lignite, oil) in 1860 was five times that of either the United States or Prussia/Germany, six times that of France, and 155 times that of Russia! It alone was responsible for one-fifth of the world’s commerce, but for two-fifths of the trade in manufactured goods. Over one-third of the world’s merchant marine flew under the British flag, and that share was steadily increasing. It was no surprise that the mid-Victorians exulted at their unique state, being now (as the economist Jevons put it in 1865) the trading center of the universe:

The plains of North America and Russia are our corn fields; Chicago and Odessa our granaries; Canada and the Baltic are our timber forests; Australasia contains our sheep farms, and in Argentina and on the western prairies of North America are our herds of oxen; Peru sends her silver, and the gold of South Africa and Australia flows to London; the Hindus and the Chinese grow tea for us, and our coffee, sugar and spice plantations are in all the Indies. Spain and France are our vineyards and the Mediterranean our fruit garden; and our cotton grounds, which for long have occupied the

Southern United States, are now being extended everywhere in the warm regions of the earth.²⁰

Since such manifestations of self-confidence, and the industrial and commercial statistics upon which they rested, seemed to suggest a position of unequaled dominance on Britain's part, it is fair to make several other points which put this all in a better context. First—although it is a somewhat pedantic matter—it is unlikely that the country's gross national product (GNP) was ever the largest in the world during the decades following 1815. Given the sheer size of China's population (and, later, Russia's) and the obvious fact that agricultural production and distribution formed the basis of national wealth everywhere, even in Britain prior to 1850, the latter's overall GNP never looked as impressive as its per capita product or its stage of industrialization. Still, "by itself the volume of total GNP has no important significance";²¹ the physical product of hundreds of millions of peasants may dwarf that of five million factory workers, but since most of it is immediately consumed, it is far less likely to lead to surplus wealth or decisive military striking power. Where Britain was strong, indeed unchallenged, in 1850 was in modern, wealth-producing industry, with all the benefits which flowed from it.

On the other hand—and this second point is not a pedantic one—Britain's growing industrial muscle was not organized in the post-1815 decades to give the state swift access to military hardware and manpower as, say, Wallenstein's domains did in the 1630s or the Nazi economy was to do. On the contrary, the ideology of laissez-faire political economy, which flourished alongside this early industrialization, preached the causes of eternal peace, low government expenditures (especially on defense), and the reduction of state controls over the economy and the individual. It might be necessary, Adam Smith had conceded in *The Wealth of Nations* (1776), to tolerate the upkeep of an army and a navy in order to protect British society "from the violence and invasion of other independent societies"; but since armed forces *per se* were "unproductive" and did not add value to the national wealth in the way that a factory or a farm did, they ought to be reduced to the lowest possible level commensurate with national safety.²² Assuming (or, at least, hoping) that war was a last resort, and ever less likely to occur in the future, the disciples of Smith and even more of Richard Cobden would have been appalled at the idea of organizing the state for war. As a consequence, the "modernization" which occurred in British industry and communications was not paralleled by improvements in the army, which (with some exceptions)²³ stagnated in the post-1815 decades.

However preeminent the British economy in the mid-Victorian period, therefore, it was probably less "mobilized" for conflict than at any

time since the early Stuarts. Mercantilist measures, with their emphasis upon the links between national security and national wealth, were steadily eliminated: protective tariffs were abolished; the ban on the export of advanced technology (e.g., textile machinery) was lifted; the Navigation Acts, designed among other things to preserve a large stock of British merchant ships and seamen for the event of war, were repealed; imperial "preferences" were ended. By contrast, defense expenditures were held to an absolute minimum, averaging around £15 million a year in the 1840s and not above £27 million in the more troubled 1860s; yet in the latter period Britain's GNP totaled about £1 billion. Indeed, for fifty years and more following 1815 the armed services consumed only about 2–3 percent of GNP, and central government expenditures as a whole took much less than 10 percent—proportions which were far less than in either the eighteenth or the twentieth century.²⁴ These would have been impressively low figures for a country of modest means and ambitions. For a state which managed to "rule the waves," which possessed an enormous, far-flung empire, and which still claimed a large interest in preserving the European balance of power, they were truly remarkable.

Like that of the United States in, say, the early 1920s, therefore, the size of the British economy in the world was not reflected in the country's fighting power; nor could its laissez-faire institutional structures, with a minuscule bureaucracy increasingly divorced from trade and industry, have been able to mobilize British resources for an all-out war without a great upheaval. As we shall see below, even the more limited Crimean War shook the system severely, yet the concern which that exposure aroused soon faded away. Not only did the mid-Victorians show ever less enthusiasm for military interventions in Europe, which would always be expensive, and perhaps immoral, but they reasoned that the equilibrium between the continental Great Powers which generally prevailed during the six decades after 1815 made any full-scale commitment on Britain's part unnecessary. While it did strive, through diplomacy and the movement of naval squadrons, to influence political events along the vital peripheries of Europe (Portugal, Belgium, the Dardanelles), it tended to abstain from intervention elsewhere. By the late 1850s and early 1860s, even the Crimean campaign was widely regarded as a mistake. Because of this lack of inclination and effectiveness, Britain did not play a major role in the fate of Piedmont in the critical year of 1859, it disapproved of Palmerston and Russell's "meddling" in the Schleswig-Holstein affair of 1864, and it watched from the sidelines when Prussia defeated Austria in 1866 and France four years later. It is not surprising to see that Britain's military capacity was reflected in the relatively modest size of its army during this period (see Table 8), little of which could, in any case, be mobilized for a European theater.

Table 8. Military Personnel of the Powers, 1816-1880²⁵

	1816	1830	1860	1880
United Kingdom	255,000	140,000	347,000	248,000
France	132,000	259,000	608,000	544,000
Russia	800,000	826,000	862,000	909,000
Prussia/Germany	130,000	130,000	201,000	430,000
Habsburg Empire	220,000	273,000	306,000	273,000
United States	16,000	11,000	26,000	36,000

Even in the extra-European world, where Britain preferred to deploy its regiments, military and political officials in places such as India were almost always complaining of the *inadequacy* of the forces they commanded, given the sheer magnitude of the territories they controlled. However imposing the empire may have appeared on a world map, district officers knew that it was being run on a shoestring. But all this is merely saying that Britain was a different sort of Great Power by the early to middle nineteenth century, and that its influence could not be measured by the traditional criteria of military hegemony. Where it was strong was in certain other realms, each of which was regarded by the British as far more valuable than a large and expensive standing army.

The first of these was in the naval realm. For over a century before 1815, of course, the Royal Navy had usually been the largest in the world. But that maritime mastery had frequently been contested, especially by the Bourbon powers. The salient feature of the eighty years which followed Trafalgar was that no other country, or combination of countries, seriously challenged Britain's control of the seas. There was, it is true, the occasional French "scare"; and the Admiralty also kept a wary eye upon Russian shipbuilding programs and upon the American construction of large frigates. But each of those perceived challenges faded swiftly, leaving British sea power to exercise (in Professor Lloyd's words) "a wider influence than has ever been seen in the history of maritime empires."²⁶ Despite a steady reduction in its own numbers after 1815, the Royal Navy was at some times probably as powerful as the next three or four navies in actual fighting power. And its major fleets were a factor in European politics, at least on the periphery. The squadron anchored in the Tagus to protect the Portuguese monarchy against internal or external dangers; the decisive use of naval force in the Mediterranean (against the Algiers pirates in 1816; smashing the Turkish fleet at Navarino in 1827; checking Mehemet Ali at Acre in 1840); and the calculated dispatch of the fleet to anchor before the Dardanelles whenever the "Eastern Question" became acute: these were manifestations of British sea power which, although geographically restricted, nonetheless weighed in the minds of European governments. Outside Europe, where smaller Royal Navy fleets or even individual warships engaged in a whole host of activi-

ties—suppressing piracy, intercepting slaving ships, landing marines, and overawing local potentates from Canton to Zanzibar—the impact seemed perhaps even more decisive.²⁷

The second significant realm of British influence lay in its expanding colonial empire. Here again, the overall situation was a far less competitive one than in the preceding two centuries, where Britain had had to fight repeatedly for empire against Spain, France, and other European states. Now, apart from the occasional alarm about French moves in the Pacific or Russian encroachments in Turkestan, no serious rivals remained. It is therefore hardly an exaggeration to suggest that between 1815 and 1880 much of the British Empire existed in a power-political vacuum, which is why its colonial army could be kept relatively low. There were, it is true, limits to British imperialism—and certain problems, with the expanding American republic in the western hemisphere as well as with France and Russia in the eastern. But in many parts of the tropics, and for long periods of time, British interests (traders, planters, explorers, missionaries) encountered no foreigners other than the indigenous peoples.

This relative lack of external pressure, together with the rise of laissez-faire liberalism at home, caused many a commentator to argue that colonial acquisitions were unnecessary, being merely a set of "millstones" around the neck of the overburdened British taxpayer. Yet whatever the rhetoric of anti-imperialism within Britain, the fact was that the empire continued to grow, expanding (according to one calculation) at an average annual pace of about 100,000 square miles between 1815 and 1865.²⁸ Some were strategical/commercial acquisitions, like Singapore, Aden, the Falkland Islands, Hong Kong, Lagos; others were the consequence of land-hungry white settlers, moving across the South African veldt, the Canadian prairies, and the Australian outback—whose expansion usually provoked a native resistance that often had to be suppressed by troops from Britain or British India. And even when formal annexations were resisted by a home government perturbed at this growing list of new responsibilities, the "informal influence" of an expanding British society was felt from Uruguay to the Levant and from the Congo to the Yangtze. Compared with the sporadic colonizing efforts of the French and the more localized internal colonization by the Americans and the Russians, the British as imperialists were in a class of their own for most of the nineteenth century.

The third area of British distinctiveness and strength lay in the realm of finance. To be sure, this element can scarcely be separated from the country's general industrial and commercial progress; money had been necessary to fuel the Industrial Revolution, which in turn produced much more money, in the form of returns upon capital invested. And, as the preceding chapter showed, the British govern-

ment had long known how to exploit its credit in the banking and stock markets. But developments in the financial realm by the mid-nineteenth century were both qualitatively and quantitatively different from what had gone before. At first sight, it is the quantitative difference which catches the eye. The long peace and the easy availability of capital in the United Kingdom, together with the improvements in the country's financial institutions, stimulated Britons to invest abroad as never before: the £6 million or so which was annually exported in the decade following Waterloo had risen to over £30 million a year by midcentury, and to a staggering £75 million a year between 1870 and 1875. The resultant income to Britain from such interest and dividends, which had totaled a handy £8 million each year in the late 1830s, was over £50 million a year by the 1870s; but most of that was promptly reinvested overseas, in a sort of virtuous upward spiral which not only made Britain ever wealthier but gave a continual stimulus to global trade and communications.

The consequences of this vast export of capital were several, and important. The first was that the returns on overseas investments significantly reduced the annual trade gap on visible goods which Britain always incurred. In this respect, investment income added to the already considerable invisible earnings which came from shipping, insurance, bankers' fees, commodity dealing, and so on. Together, they ensured that not only was there never a balance-of-payments crisis, but Britain became steadily richer, at home and abroad. The second point was that the British economy acted as a vast bellows, sucking in enormous amounts of raw materials and foodstuffs and sending out vast quantities of textiles, iron goods, and other manufactures; and this pattern of visible trade was paralleled, and complemented, by the network of shipping lines, insurance arrangements, and banking links which spread outward from London (especially), Liverpool, Glasgow, and most other cities in the course of the nineteenth century.

Given the openness of the British home market and London's willingness to reinvest overseas income in new railways, ports, utilities, and agricultural enterprises from Georgia to Queensland, there was a general complementarity between visible trade flows and investment patterns.* Add to this the growing acceptance of the gold standard and the development of an international exchange and payments mechanism based upon bills drawn on London, and it was scarcely surprising that the mid-Victorians were convinced that by following the principles of classical political economy, they had discovered the secret

*Argentina, for example, would be able to find a ready market in the U.K. for its exports of beef and grain, thereby allowing it not only to pay for imported British manufactures and for the various service fees but also to repay the long-term loans floated in London, and thus to keep its own credit high for further borrowing. The contrast with U.S. loans to Latin America in the twentieth century—lending at short term, and not allowing the importation of agricultural produce—is striking.

which guaranteed both increasing prosperity and world harmony. Although many individuals—Tory protectionists, oriental despots, new-fangled socialists—still seemed too purblind to admit this truth, over time everyone would surely recognize the fundamental validity of laissez-faire economics and utilitarian codes of government.²⁹

While all this made Britons wealthier than ever in the short term, did it not also contain elements of strategic danger in the longer term? With the wisdom of retrospect, one can detect at least two consequences of these structural economic changes which would later affect Britain's relative power in the world. The first was the way in which the country was contributing to the long-term expansion of other nations, both by establishing and developing foreign industries and agriculture with repeated financial injections and by building railways, harbors, and steamships which would enable overseas producers to rival its own production in future decades. In this connection, it is worth noting that while the coming of steam power, the factory system, railways, and later electricity enabled the British to overcome natural, physical obstacles to higher productivity, and thus increased the nation's wealth and strength, such inventions helped the United States, Russia, and central Europe even more, because the natural, physical obstacles to the development of their landlocked potential were much greater. Put crudely, what industrialization did was to equalize the chances to exploit one's own indigenous resources and thus to take away some of the advantages hitherto enjoyed by smaller, peripheral, naval-cum-commercial states and to give them to the great land-based states.³⁰

The second potential strategical weakness lay in the increasing dependence of the British economy upon international trade and, more important, international finance. By the middle decades of the nineteenth century, exports composed as much as one-fifth of total national income,³¹ a far higher proportion than in Walpole's or Pitt's time; for the enormous cotton-textile industry in particular, overseas markets were vital. But foreign imports, both of raw materials and (increasingly) of foodstuffs, were also becoming vital as Britain moved from being a predominantly agricultural to being a predominantly urban/industrial society. And in the fastest-growing sector of all, the "invisible" services of banking, insurance, commodity-dealing, and overseas investment, the reliance upon a world market was even more critical. The world was the City of London's oyster, which was all very well in peacetime; but what would the situation be if ever it came to another Great Power war? Would Britain's export markets be even more badly affected than in 1809 and 1811–1812? Was not the entire economy, and domestic population, becoming too dependent upon imported goods, which might easily be cut off or suspended in periods of conflict? And would not the London-based global banking and financial system col-

lapse at the onset of another world war, since the markets might be closed, insurances suspended, international capital transfers retarded, and credit ruined? In such circumstances, ironically, the advanced British economy might be more severely hurt than a state which was less "mature" but also less dependent upon international trade and finance.

Given the Liberal assumptions about interstate harmony and constantly increasing prosperity, these seemed idle fears; all that was required was for statesmen to act rationally and to avoid the ancient folly of quarreling with other peoples. And, indeed, the laissez-faire Liberals argued, the more British industry and commerce became integrated with, and dependent upon, the global economy, the greater would be the disincentive to pursue policies which might lead to conflict. In the same way, the growth of the financial sector was to be welcomed, since it was not only fueling the midcentury "boom," but demonstrating how advanced and progressive Britain had become; even if other countries followed her lead and did industrialize, she could switch her efforts to servicing that development, and gaining even more profits thereby. In Bernard Porter's words, she was the first frogspawn egg to grow legs, the first tadpole to change into a frog, the first frog to hop out of the pond. She was economically different from the others, but that was only because she was so far ahead of them.³² Given these auspicious circumstances, fears of strategical weakness appeared groundless; and most mid-Victorians preferred, like Kingsley as he cried tears of pride during the Great Exhibition at the Crystal Palace in 1851, to believe that a cosmic destiny was at work:

The spinning jenny and the railroad, Cunard's liners and the electric telegraph, are to me . . . signs that we are, on some points at least, in harmony with the universe; that there is a mighty spirit working among us . . . the Ordering and Creating God.³³

Like all other civilizations at the top of the wheel of fortune, therefore, the British could believe that their position was both "natural" and destined to continue. And just like all those other civilizations, they were in for a rude shock. But that was still some way into the future, and in the age of Palmerston and Macaulay, it was British strengths rather than weaknesses which were mostly in evidence.

The "Middle Powers"

The impact of economic and technological change upon the relative position of the Great Powers of continental Europe was much less dramatic in the half-century or so following 1815, chiefly because the

industrialization which did occur started off from a much lower base than in Britain. The farther east one went, the more feudal and agricultural the local economy tended to be; but even in western Europe which had been close to Britain in many aspects of commercial and technological development prior to 1790, two decades of war had left a heavy mark: population losses, changed customs barriers, higher taxes, the "pastoralization" of the Atlantic sector, the loss of overseas markets and raw materials, the difficulties of acquiring the latest British inventions, were all setbacks to general economic growth, even when (for special reasons) certain trades and regions had flourished during the Napoleonic wars.³⁴ If the coming of peace meant a resumption of normal trade and also allowed continental entrepreneurs to see how far behind Great Britain they had fallen, it did not produce a sudden burst of modernization. There simply was not enough capital, or local demand, or official enthusiasm, to produce a transformation; and many a European merchant, craftsman, and handloom weaver would bitterly oppose the adoption of English techniques, seeing in them (quite correctly) a threat to their older way of life.³⁵ In consequence, although the steam engine, the power loom, and the railway made some headway in continental Europe

between 1815 and 1848 the traditional features of the economy remained preeminent: the superiority of agriculture over industrial production, the absence of cheap and rapid means of transport, and the priority given to consumer goods over heavy industry.³⁶

As Table 7 above shows, the relative increases in per capita levels of industrialization for the century after 1750 were not very impressive; and only in the 1850s and 1860s did the picture begin to change.

The prevailing political and diplomatic conditions of "Restoration Europe" also combined to freeze the international status quo, or at least to permit only small-scale alterations in the existing order. Precisely because the French Revolution had been such a frightening challenge both to the internal social arrangements and to the traditional states system of Europe, Metternich and fellow conservatives now regarded any new developments with suspicion. An adventurist diplomacy, running the risk of a general war, was as much to be frowned upon as a campaign for national self-determination or for constitutional reform. On the whole, political leaders felt that they had enough on their hands simply dealing with domestic turbulence and the agitation of sectional interests, many of which were beginning to feel threatened by even the early appearances of new machinery, the growth of urbanization, and other incipient challenges to the guilds, the courts, and the protective regulations of a preindustrial society. What one historian has described as an "endemic civil war that pro-