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4. The Spread of the Industrial Revolution

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Abstract
During much of the nineteenth century Great Britain strove with notable success to maintain her position as the world's leading industrial, commercial, and financial power. Her factories continued turning out textiles, machinery, and many other goods which were exported to all parts of the world. Her merchant marine continued to be the largest of any country. London was the financial capital of the world. Britain had adopted the gold standard in 1821; most western European nations and many others eventually followed her lead. The English pound was everywhere acceptable as international exchange. By 1850, when half of all Englishmen were living in towns and cities, England was a food deficit area importing more than she exported. Foodstuffs flowed from her economic satellites in western Europe and from the world over, as well as cotton from the United States and India, wool from Australia and New Zealand, and such metals as copper, lead, and tin from many far-flung outposts. In return, England sent out not only goods, but also the capital and technical ability which helped to build railway systems or develop mines and plantations in many parts of the world. Moreover, England was the center of a mighty empire which in many ways supplemented and complemented her own economy. [*excerpt*]

Keywords
Contemporary Civilization, Industrialization, Industrial Revolution

Disciplines
European History | History | History of Science, Technology, and Medicine

Comments
This is a part of Section XIV: The Industrial Revolution, Classical Economics, and Economic Liberalism. The Contemporary Civilization page lists all additional sections of *Ideas and Institutions of Western Man,* as well as the Table of Contents for both volumes.

More About Contemporary Civilization:

From 1947 through 1969, all first-year Gettysburg College students took a two-semester course called Contemporary Civilization. The course was developed at President Henry W.A. Hanson's request with the goal of "introducing the student to the backgrounds of contemporary social problems through the major concepts, ideals, hopes and motivations of western culture since the Middle Ages."

Gettysburg College professors from the history, philosophy, and religion departments developed a textbook for the course. The first edition, published in 1955, was called *An Introduction to Contemporary Civilization and Its Problems*. A second edition, retitled *Ideas and Institutions of Western Man*, was published in 1958 and 1960. It is this second edition that we include here. The copy we digitized is from the Gary T. Hawbaker '66 Collection and the marginalia are his.

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During much of the nineteenth century Great Britain strove with notable success to maintain her position as the world's leading industrial, commercial, and financial power. Her factories continued turning out textiles, machinery, and many other goods which were exported to all parts of the world. Her merchant marine continued to be the largest of any country. London was the financial capital of the world. Britain had adopted the gold standard in 1821; most western European nations and many others eventually followed her lead. The English pound was everywhere acceptable as international exchange. By 1850, when half of all Englishmen were living in towns and cities, England was a food deficit area importing more than she exported. Foodstuffs flowed from her economic satellites in western Europe and from the world over, as well as cotton from the United States and India, wool from Australia and New Zealand, and such metals as copper, lead, and tin from many far-flung outposts. In return, England sent out not only goods, but also the capital and technical ability which helped to build railway systems or develop mines and plantations in many parts of the world. Moreover, England was the center of a mighty empire which in many ways supplemented and complemented her own economy.

It was to England's advantage to set the example of free trade before the rest of the world, which to all intents and purposes she did after the repeal of the Corn Laws in 1846. For a brief period thereafter, restrictions on the free international exchange of goods were at a minimum. Then after about 1870 the picture began to change. Other national states resorted to tariffs to protect themselves from British goods while they were developing industries of their own.

The first country on the Continent to be industrialized was Belgium, which had a long tradition of manufacturing as well as access to coal and iron deposits, and which benefited from the assistance of British capital and technicians. Beginning after acquiring her independence in 1830, Belgium was almost as highly industrialized as England herself by 1870. France also began feeling the effects of industrialization after 1830. Here, it was noted for its gradualness and its incompleteness. France developed a railway network and a steel industry, the latter of which was hampered by a lack of good ore and coking coal. But she remained basically an agricultural country, her millions of peasant proprietors undisturbed in their possession of the land. French industrial emphasis was on small-scale manufacturing, especially of luxury goods.

The European state which offered the greatest economic challenge to England before 1914 was Germany. Political disunity hindered her industrial development, but did not prevent it. Even before 1871 many German states had the beginnings of a railway network as well as small coal and iron industries. After 1871 industrialization proceeded rapidly, efficiently, and thoroughly. Assisted by the active cooperation of the government; by the availability of capital and help of German bankers; by the application of science to industry; by the rapid extension of the rail system, which not only helped to unify the country but also enabled it to reach into Russia and the Balkans; and by its ability to take advantage of the achievements of English technology, German industrialization amazed the world. The nearness of limestone, coal, and iron ore (along with the process which made usable the high phosphorous Lorraine ore) made possible one of the greatest concentrations of industry in the world around the steel mills of the Ruhr valley. Even before 1900 Germany was producing more steel than England, and excelled in the chemical and electrical equipment industries. Although it was an Englishman who made the first synthetic dye (1856), Germany had acquired a virtual monopoly of the world production by 1900. The rapid replacement of natural dyes by a synthetic product was something unique, and its lesson was not lost to the world. Also, by 1900 German textiles were in serious competition with English goods in the world markets. German foreign trade in 1914 was second only to that of Great Britain.

Developments in Russia were in sharp contrast to those in Germany. Here there was a bitter controversy between those who were in favor of industrialization and those who opposed the introduction of any Western innovations as destructive of Russia's true greatness. Beginning in the early 1890's Serge Witte (1849-1915), first as minister of communications and then as minister of finance, promoted the building of railways, so that by 1914 Russian mileage was double that of England. The long Trans-Siberian line, which linked European Russia with Vladivostok on the Pacific Ocean, was completed in 1904. Witte put his country on the gold standard and arranged for heavy investments

of foreign capital, especially French. Although his opponents forced him from office in 1903, his program continued. By 1914 total Russian manufacturing production was the fifth largest in the world, but per capita production remained very low.

The most spectacular industrial development of all occurred in the United States after 1850, and especially after the conclusion of the Civil War in 1865. The American steel industry surpassed that of England by 1890, and has consistently led the world in production ever since. In seemingly endless quantities steel went into the herculean task of spanning a continent and developing an incredibly complex and diversified economy, in which there was room for mining and agriculture as well as for manufacturing. A key fact in the whole of American history has been its large area. In the half century after 1865 this fact contributed to the uniqueness of American economic growth in at least three ways. First, it encouraged the building of the largest railway network in the world. Second, it made possible the reception of more than 25,000,000 immigrants between 1865 and 1914, truly the greatest mass migration thus far in the history of the world. Third, its large area provided the United States with such a variety of climatic and natural resources that it was much less dependent on foreign trade for survival than any of the other important industrial nations. Another key fact in explaining American economic development in this period was the relative youth of the country when compared to the industrialized states of Europe. This meant that there were fewer long-established institutions which might retard the new forces that were transforming American society.

PERCENTAGE DISTRIBUTION OF
WORLD MANUFACTURING PRODUCTION *

	1870	1913
United States	23.3	35.8
Germany	13.2	15.7
Great Britain	31.8	14.0
France	10.3	6.4
Russia	3.7	5.5
Other countries	17.7	22.6

By 1914, then, the forces of industrialization had taken rather complete possession of western Europe and the United States. Most of the world's industrial capacity was located there. Beyond this region -- bounded by Sweden, part of Russia, Germany, northern Italy, France, Great Britain, and the United States -- the rest of the world was in varying stages of underdevelopment. After 1870, with government leadership, Japan became industrialized, although by 1913 she is estimated to have

* Quoted from The Economic Almanac, 1953-1954 (New York: Thomas Y. Crowell Company, for the National Industrial Conference Board, Inc., 1953), pp. 600-601.

contributed but 1.2% of the total world manufacturing production. With only a few other exceptions, the rest of Asia, Africa, and Latin America had not been able, or had not been willing and able, to abandon the old ways for the new.