The Dawn of Innovation: The First American Industrial Revolution FREE

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Physics Today **67** (5), 51 (2014);
https://doi.org/10.1063/PT.3.2384

A young nation plays catch-up, then surges ahead

The Dawn of Innovation

The First American Industrial Revolution

Charles R. Morris
PublicAffairs, 2012. $28.99 (384 pp.).
ISBN 978-1-58648-828-4

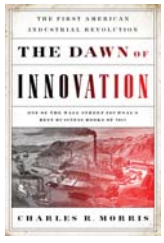
Reviewed by H. Frederick Dylla

We often attribute the spark of US economic engines to activities that took place in the second half of the 20th century. Many valuable inventions and discoveries resulted from the post–World War II economic boom and from US fears of second-class world status in technology after the Soviet Union's successful *Sputnik* launch. Indeed, the US continues to benefit from the innovations that poured out of the corporate research laboratories of America's blue-chip companies and from its burgeoning research universities.

However, in *The Dawn of Innovation: The First American Industrial Revolution*, Charles Morris expertly illustrates how the tradition of innovation in the US began just as the new country was getting started. Morris, a distinguished banker and lawyer by trade, has written more than a dozen books on American history, with an emphasis on events and personalities that influenced US economic development. In this book, he provides an engaging account of the remarkable technologies, businesses, and distribution systems that developed across the continent as settlements rapidly moved west.

The Dawn of Innovation describes the transformation of a young nation from a minor player on the world stage at the opening of the 19th century to a powerhouse that eclipsed the British Empire as the world's largest economy and manufacturer at the end of the century. Some of the more famous inventions marking the US's developing industrialization include Eli Whitney's cotton gin (1793), Robert Fulton's steamboat (1807), and Samuel Colt's systemized manufacture of firearms with interchangeable parts (1836).

Some key numbers tell the story. In 1800 Britain was the world's leading provider of raw materials such as coal and iron and of finished products, with US output a mere one-sixth that of the British territories. Even at midcentury, Victorian England continued to celebrate its mastery of the world's economy; the US was gaining ground, though, due in large part to its ability to mass-produce interchangeable parts. By the 1880s US output had achieved parity, and by the outbreak of World War I, it was 2.3 times British output.



The catch-up century began with war preparations, a common boost to economic development. Morris describes the naval arms race during the War of 1812. The US Navy in 1812 had one ship supporting 16 guns and the British had six ships supporting 40 guns. By the end of that short war, the firepower was essentially equal, and more than 100 ships were armed and manned on each side of the Great Lakes. Fortunately for the sailors in both fleets, there never was a major battle. (Note the uncanny similarity to the Cold War arms race between the US and the Soviet Union.) The investment nevertheless proved profitable for the US; the necessity to rapidly build up its fleet jump-started the shipbuilding and attendant industries such as lumber and iron.

Morris traces industrial development in 19th-century America through multiple pathways. Power generation sprang up along almost every stream. Water turbines that were developed for major dams are still in use for generating hydroelectric power. Shipping and transportation networks replaced horses and carriages with canals and steamships. A rail system crisscrossed the nation by midcentury and quickly grew to an established railroad network that is still in use today.

US industry quickly evolved beyond agriculture to producing basic household necessities such as clothing, furnishings, and chemical goods derived from agriculture (for example, plant-based alternatives to lard and whale oil). Then came the heavy industries that provided fuel and transportation to the nation. Along the way, a banking industry was established with an elite financier class that included the likes of John D. Rockefeller, Andrew Carnegie, J. P. Morgan, and Cornelius Vanderbilt, who all reaped extraordinary fortunes from the exploding economy.

Much of the early development of the technologies underlying such inventions as the steam engine and the Bessemer furnace for manufacturing steel was British. So what spurred the US economy to grow so rapidly and overtake the mother country? Morris identifies three major factors at the beginning of the 19th century that led to America's success: near universal male suffrage for the predominant citizenry, leading to widespread participation in local and national government; mass public education that fostered the growth of a significant middle class; and a seemingly unlimited availability of natural resources from an untapped continent.

Later, in the midst of the country's most trying period—the Civil War—President Abraham Lincoln's fractious Congress in 1862 passed three important pieces of legislation: The Homestead Act, the Pacific Railway Act, and the Land Grant College Act strongly underpinned the country's continued economic growth and prosperity as the war ended.

Morris completes his account of the first century of American innovation with what he characterizes as a prologue and epilogue. For the prologue, he recounts how the new nation could reinvent the Industrial Revolution and outplay Britain to become the world's economic force. In his epilogue, he contrasts that history with the current landscape, where the US has taken the role of incumbent, facing a fast-growing China for 21st-century dominance. There are lessons unfolding on both sides of this economic race: We all must consider the values of participatory democracy, a strong public education system, and respect for natural resources. And in this century, we all must find a balance between economic power and global welfare.

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