

America and Russia: How nationalists created the modern world economy

by Anton Chaitkin

The following chronology is an advance summary of work in progress toward a major study on the history of the industrial revolution, 1750-1900. The new work departs sharply from the treatment of the subject by British pro-free-trade writers, as well as by socialist authors, who were the respectful followers of the British historiographical tradition.

The overwhelming evidence points to a contest, at the highest levels of statecraft and science. On the one side were the "national parties" in the United States, Russia, Germany, France, Japan, and other countries, in a closely coordinated international effort for industrialization. Ranged against these republican nationalists was the old European oligarchy, centered in the British Empire, which sought to block industrial and scientific progress.

1825-28

The United States launched construction of a dense network of canals, and began building railroads. The work was commissioned by President John Quincy Adams and the nationalist leadership group centered in Philadelphia, led by Nicholas Biddle, president of the Bank of the United States; Mathew Carey, the humanist publisher, former Irish revolutionary, and former agent of Benjamin Franklin; and Friedrich List, immigrant economist, German republican leader, and former political prisoner. Each of the transportation works, for the rest of the century, was financed by one or another level of government.

This first successful U.S. development repeated certain aspects of the English industrial breakthroughs of the 1760s and 1770s, which had been led by Benjamin Franklin, in person, and his circle of English republican co-thinkers.

At the outset, 60 American railroads were built which were designed by United States Army engineers (graduates of the Military Academy at West Point), until a free-trade-dominated Congress interrupted Army participation in 1837.

President Adams, the former U.S. ambassador to Russia, was a forceful critic of both American and Russian imperial pretensions. He was at the same time an ardent advocate of both countries' industrial greatness. While in Russia, Adams had arranged with Czar Alexander I for inventor Robert Fulton to build a fleet of steamboats to modernize transport

on Russia's rivers. The second U.S.-versus-British war (1812-15) interrupted the project.

Early 1830s

Friedrich List returned to Germany as a U.S. consul and began to organize the construction of railroads to help unite the fragmented German principalities into a single nation.

1836-38

Nicholas Biddle and his allies at Philadelphia's Franklin Institute sponsored the mission to Europe of Alexander Dallas Bache, a brilliant West Point graduate and Benjamin Franklin's great-grandson. Guided by German scientist Alexander von Humboldt, Bache met with Göttingen University scientists Carl F. Gauss and Wilhelm Weber. They established an active international union of scientists, the *Magnetischeverein*, which was associated with the American and European nationalists.

1839

Czar Nicholas I sent to the United States a delegation of engineers led by Pavel Myelnikov. Touring widely and meeting all principal U.S. railroad builders, they declared that Russia, with its great spaces, must emulate American railroad construction.

1840s

Alexander Dallas Bache and the Philadelphia nationalists organized the United States Naval Academy, which would be an important U.S. scientific center. Bache, then head of Philadelphia's public school system, created an elite science group known as the "Lazzaroni," and for a time took control of science work in the top American universities.

Attacking British free-trade dogmas, economist Friedrich List organized the tariff union—the *Zollverein*—which started the small German states toward unification into a single nation.

Pavel Myelnikov and Crown Prince Alexander II led a committee which hired American engineers to build Russia's first great railroad, from Moscow to St. Petersburg. The

project chief, former U.S. Army engineer George Washington Whistler (whom President John Q. Adams had assigned to work on America's first railroad, the Baltimore & Ohio), also built Russian rail factories and fortifications. Philadelphia factories provided locomotives.

At the same time, Russia adopted its first high tariff system, protecting the nation from British trade war, and thus launching its modern iron industry.

1854-56

The British Empire and its allies invaded the Crimea and made war on Russia. Alexander II, crowned during the fighting, was deeply impressed with the vulnerability caused by Russia's feudal backwardness. Alexander, who was to be known as the Czar Liberator, had been educated by Vasili Zhukovsky, Russia's translator and popularizer of Friedrich Schiller—Germany's poet of freedom.

A U.S. Navy fleet under Commodore Matthew Perry brought railroad and telegraph technology to Japan. American-Japanese consular relations were opened, leading to the strengthening of Japan's anti-feudal party and a defense against the British imperial opium traffic.

1861

Czar Alexander II, projecting modern industrial development, freed Russia's 20 million serfs, forming emancipation committees throughout the Russian Empire. The emancipation law was timed to precede by one day the inauguration of U.S. President Abraham Lincoln, whose government was attacked by British-armed U.S. slaveowners.

1862

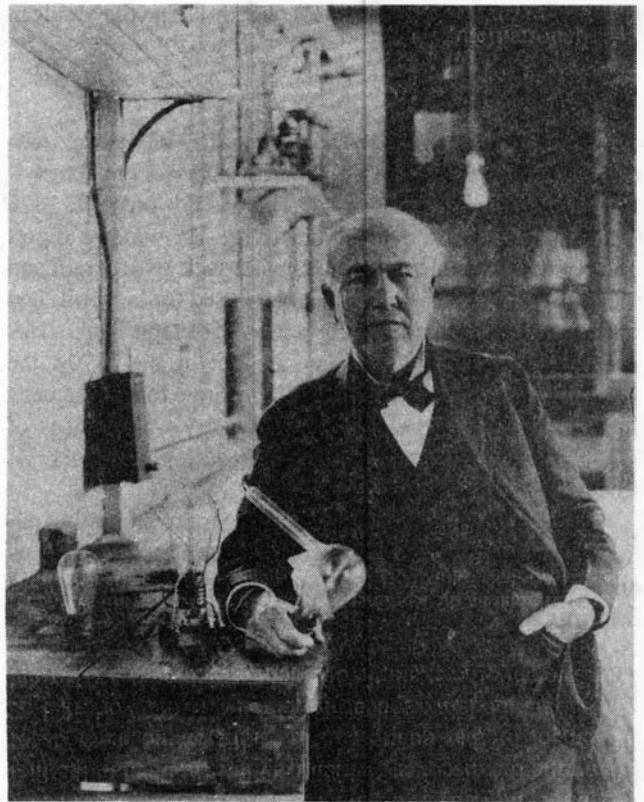
Under his Pacific Railway Act, President Lincoln organized the financing and military arrangements for construction of the first transcontinental American railroad. Lincoln's chief engineer, Gen. Grenville Dodge, later advised Russia on its first railway to the Pacific.

Guided by Philadelphia economist Henry Carey (son of Franklin's agent Mathew Carey), President Lincoln instituted high tariffs to create America's first steel mills. Lincoln staffed his newly created Agriculture Department, and the Bache-led science schools, with scientists trained in Europe by chemist Justus von Liebig, a protégé of Alexander von Humboldt.

1863

President Lincoln issued his Emancipation Proclamation. The practical freedom of the slaves was to be achieved by Lincoln's armies—which included 180,000 black soldiers.

Russia's fleet sailed into New York and San Francisco harbors, demonstrating support for the American Union and warning Britain not to intervene directly in the American Civil War.



Thomas Alva Edison with some of his "Edison effect" lamps—a prelude to nuclear technology.

1865

The United States prepared to seize Canada, then a British colony being used as a base for slaveowners' terrorist raids against the United States. The British avoided this ejection from the Western Hemisphere through the assassination of President Lincoln.

1866

Following the attempted assassination of Czar Alexander II, the United States warned Britain by sending to Russia a fleet including the then-Invincible oceangoing Monitor-class ironclad the *Miantonomoh*, under Lincoln's naval aide Gustavus Vasa Fox.

1874-76

The chief scientist for the Franklin Institute, George Barker, a participant in the Henry Carey nationalist circle, first contacted Thomas Alva Edison, after hearing of Edison's advances in multiple simultaneous telegraph messages. Barker invited Edison to demonstrate his work at the University of Pennsylvania and at the National Academy of Sciences, then still controlled by Bache's allies. The Philadelphia nationalist grouping, owners of the Pennsylvania Railroad, sponsored Edison as a full-time inventor. Among their other

projects were Andrew Carnegie's steel mills and the Mexican national railways.

1876

The pioneering Russian chemist Dmitri Mendeleev, discoverer of the Periodic Table, did extensive work in Pennsylvania. He participated alongside Thomas Edison in the 1876 Centennial Exhibition in Philadelphia. He wrote a report on the new oil industry, criticizing its lack of program and ineffectiveness. Petroleum, then only used for lamp oil, had been launched as an industry by a late 1850s report of Lazzaroni affiliate Benjamin Silliman, Jr. But by the 1870s, the Pennsylvania Railroad and Franklin Institute forces had been squeezed out, and the petroleum industry was a chaos of low-level prospectors, dominated increasingly by John D. Rockefeller and his British backers.

Mendeleev later wrote influential works promoting national development through protective tariffs, and encouraged Count Sergei Witte in promoting the industrial and infrastructure development of Russia.

1878 to the 1880s

Thomas Edison worked with the U.S. Army Signal Corps. He was trusted as a patriot and an ardent republican, in contrast to the British-sponsored organization of Briton Alexander Graham Bell. In reality, it was Edison who perfected the "Bell" telephone.

Edison's closest friend and corporate manager was the Philadelphia nationalists' agent Edward H. Johnson. Tutored by Franklin Institute scientist Barker, Edison undertook to invent a practical incandescent electric lamp. This feat was declared impossible by the British-guided scientific world. An official committee of the British Parliament, convened to investigate the "threat" posed by Edison's work, heard multiple speakers testify that the incandescent electric light could not possibly work.

Edison and his nationalist sponsors, in a struggle with British-subordinate financier J.P. Morgan, succeeded in producing the world's first large-scale electric generators and a mass of new electrical technologies. Central city generating stations were exported to France, Germany, and other European countries, as well as Latin America and Japan, before the British financial oligarchy was able to take final control of the Edison organization.

In this period, Japan was developed largely with American technological aid provided by the U.S. nationalists led by Henry Carey and Philadelphia industrial republicans. A U.S. official guiding this technology transfer was the American ambassador to Japan (1873-85), John Bingham. The outspokenly anti-British Bingham had authored the Fourteenth Amendment to the U.S. Constitution, declaring freed slaves U.S. citizens; he had been a judge in the trial prosecuting the conspirators who assassinated President Lincoln. In a desperate contest, the U.S. mission countered

British efforts to steer Japan toward militarism, racism, and xenophobia.

1880 to the 1890s

Edison and his employee Frank J. Sprague developed the first powerful electric trains. Edward H. Johnson then set up a separate organization for Sprague, who built America's first electric transit systems in cities, the first electric elevators, and electricity-driven machines and tools such as lathes, making large modern cities feasible. Edison's employee and protégé Henry Ford went on to build the first mass production for automobiles. Ironically, this made oil tycoon Rockefeller, an enemy of the nationalists, a very rich man.

Edison's life is proof of the absurdity of the British story that random profiteers somehow made the Industrial Revolution. In Edison's New Jersey laboratory, kept now as a museum, his bust of Alexander von Humboldt remains on his desk. Two-thirds of the books in his laboratory library are in the German language. He read, and trained his workers, in German- and French-language physics and chemistry books. He read Schiller and Goethe.

In an 1880s interview, Edison said that all subdivisions of nature have intelligence; it is derived from that intelligence which is "greater than us all"—that is, a conscious Creator, which he said he "could probably prove just from chemistry."

From Edison's surviving notebooks, we see him within that continental European scientific tradition—a line of thinking from Kepler to Leibniz to Ampère, Gauss, and Weber—against which British empiricism took up the cudgels.

In March and April 1886, for example, Edison worked to advance the thermionic or "Edison Effect," by which heat was converted directly into a flow of electrons—thus, the vacuum tube. From this line of research, together with the photoelectric effect discovered by Europeans, other workers advanced into nuclear science. In this same period, Edison analyzed the electromagnetic organization of the solar system—the nature of gravity as electromagnetism.

1890s

Count Witte, Russia's finance minister, built the great Trans-Siberian Railway; among his advisers was Gen. Grenville Dodge, President Lincoln's chief railroad engineer. A published advocate of the economics of Friedrich List, Witte succeeded in imposing a protective tariff system and other State measures which drove Russia into the modern industrial age.

Anton Chaitkin is the author of Treason in America: From Aaron Burr to Averell Harriman (New York: New Benjamin Franklin House Publishing Co., Inc., 1985) and co-author of George Bush: The Unauthorized Biography (Washington, D.C.: EIR, 1992).