

## HUMANITIES INSTITUTE

# NORTH AMERICAN ECONOMIC HISTORY

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Part I : INNOVATION

**Overview** North American innovations have contributed a great deal to the economic and industrial development of the nation, and to its place on the world stage, as a partner, aggregator, popularizer, and leader in many different fields and specialties. Innovation has been a key to survival, and also important in improving standards of living, and also in striving to open doors of opportunity and the realization of the “American Dream.”

ANCIENT PERIOD

### PreHistory

**Clovis culture (18,000 – 8,000 BC):** We now know that the waves of people who came across the Bering Strait land bridge during the last Ice Age made their way to all parts of North America came in two distinct pulses. Radiocarbon dated artifacts show that the first group arrived 20,000 years ago, and the Clovis group arrived at around 13,000 years ago. Both groups developed unique spear points made of chert, obsidian daggers and arrow points, bone wrenches, ivory spear bases, and chert cleavers. They formed new techniques for hunting that made it possible to form groups and kill mammoths, bison, and deer. Turtles were, however, the “go-to” food and were used for meat, and their shells for bowls.

### Classical

**Southwest Pueblo (1200 BCE – 1300 AC):** The Pueblo Indians were known for their innovations in communal living. They created elaborate cliff dwellings which were subdivided by purpose. They also developed methods of farming that utilized irrigation and crop rotation to successfully grow enough maize, beans, squash, and gourds to last more than a season.

**Eastern Woodlands (1000 BCE – 1000 AD):** The Abenaki, Iriquois, and other Eastern Woodlands peoples developed a system of agriculture that incorporated fertilization (using fishbones and compost). They created a farming system that allowed them to grow crops in grid patterns that circled the longhouses where they lived. There were outlying storehouses that were also used as guard posts.

**Mississippian (800 – 1500 AD):** The Mississippian peoples whose largest settlement was in Cahokia (modern-day Saint Louis area), lived along the Mississippi River and its tributaries. Its governmental center was in Spiro, Oklahoma, where there were complexes of large “mounds” (complexly engineered earthen pyramids), along with a water system. Their civil engineering innovations were impressive, with pyramids, large earthworks, drainage systems, irrigation, and retaining walls. They also developed boats capable of transporting cargo in extensive trade voyages along rivers.

### Colonial (Early Modern)

**Inventions:** Colonial America was a place where gentlemen farmers and entrepreneurs were motivated to develop inventions to improve productivity and quality of life. They often shared ideas with contacts in England.

**Atmospheric steam engine (1712):** Thomas Newcomen was the first to develop the atmospheric steam engine, which was the first practical steam engine. It was modified in the American colonies and used in iron-mongering.

**Flying Shuttle (1733):** John Kay's flying shuttle was developed in England for spinning. It was also implemented in the American colonies in areas that produced flax for linen, wool, and cotton.

**Improved steam engine (1769):** James Watt improved the steam engine in England, which was exported to the American Colonies where it was used primarily as a steam pump. The piston pump was used in milling and also to move paddles in the first experiments with paddleboats.

**Benjamin Franklin:** A tireless innovator, Franklin developed the lightning rod, bifocals, and Franklin stove, many of which became fixtures in American homes and lives.

**Robert Fulton:** In the 1790s, Robert Fulton developed the steamboat (a steam engine powered paddleboat) which he used on the Hudson River. His goal was to show how cargo boats could move from New York City to Albany, allowing the transport of raw materials, equipment, and finished goods.

**Agricultural Inventions:** Eli Whitney, born in Massachusetts, is credited for changing the face of American industry by inventing the cotton gin and turning cotton into a profitable crop, and making it possible to support a thriving textile industry in New England.

**Banking Innovations / Money:** Alexander Hamilton, one of the "Founding Financiers," helped develop the Bank of North America and the Bank of New York (1794). They were limited in scope, and were used primarily as savings banks. Loans and insurance companies were not affiliated with banks. Loans were often made by the land owners, or by "monied" individuals.

### Nineteenth Century

**Raw Materials (Plantation, Mining, Fur, etc.):** Economic progress was made possible in the plantation-dominated South, the gold and mining dominated West, and the factory-dominated Northeast thanks to steam-powered farm equipment (tractors, threshers); steam-powered combustion engines, mining (mills, amalgamation chemical processes for gold, coal mining

**Industrial Revolution / Manufacturing:** The new American nation went through two episodes of Industrial Revolution. The first included canal systems and steam engines. Tom Thumb was the first to develop steam-powered locomotive. Benjamin Wright designed canals including the Erie Canal which connected the Hudson River (at Albany, NY) with the Great Lakes. The first wave also included steel processes (Bessemer) that allowed the production of steel for railroads. The second Industrial Revolution set the stage for improved communications, illumination (longer work days), factories of all kinds, and transportation. American inventions (or significant innovations on existing inventions) included the electromagnet, telegraph, electric light, Bessemer process for steel, sewing machine, typewriter, internal combustion engine, photograph, moving pictures, steam turbine, machine gun, AC motor and transformer, and the automobile.

**Innovative Social Arrangements/ Utopian Settlements:** Innovative social arrangements flourished in the United States, particularly in the western, more unsettled parts of the country. Early Utopian communities included the celibate Shakers who developed new herbal medicines and a distinctive type of furniture, the Mormons who established a complex society in Utah where they focused on agriculture and trade. The Oneida Community, established by John Humphrey Noyes in Putney, Vermont, practiced a complex (and scandalous) kind of open marriage. The expanded and found economic success by developing high-quality silverware and embroidered silks. The overall economic system was socialistic. They eventually fell apart as a community (but lived on as a silverware business) due to sexual jealousy.

**Inventions in Wars (1812, 1848, Indian Wars, Civil War, More Indian Wars, 1898):** There were numerous inventions that accompany the various wars. The Ironside ship and submarine were developed and improved during the wars of 1812 and the Civil War. The Gatling Gun was developed and implemented with savage efficacy in the Civil War. Navigation and communication innovations took place in the war with Mexico in 1848 and also in the fort system in the Indian wars.

**Medicinal Innovations:** American medical innovations were in tandem with European innovations. They included improving immunizations, and beginning to recognize the need to sterilize equipment and to wear clean (rather than blood-encrusted) clothing. Clara Barton adopted Florence Nightingale's nursing practices and established the American Red Cross and a system of standardized nursing practices. Medicines, especially those containing opium, flourished.

## Twentieth Century

**Second Industrial Revolution:** The Second Industrial Revolution started at the turn of the century, and resulted in dramatic breakthroughs in communication, transportation, and public works. The inventions included forged steel, automobiles, telegraph, telephone, waterworks, public sewer systems, trams, gas and electricity in homes.

**Third Industrial Revolution:** The Third Industrial Revolution had to do with computers, petrochemicals (plastics, nylon, etc.), airplanes, and space-age innovations. It started in the 1950s, with dramatic breakthroughs in plastics, in computing, and also in the development of materials and processes that allowed additional automation, television and radio broadcasting, space travel, air travel, satellite communication, and more.

**Fourth Industrial Revolution:** In the 1980s and 1990s, the development of the World Wide Web and the Internet led to dramatic change in what way people communicate, obtain information, and also monitor people and processes. It was accompanied by the development of computing power, which allowed the development of artificial intelligence and "smart" systems. The change in communication led to the dramatic transformation and automation of many professions and jobs, such as journalist, middle manager, secretaries, typists, clerks, commercial artists, and more.

**World War I Technologies:** The American inventions that were used in World War I were quite diverse. They ranged from the use of airplanes and a system of air traffic control, to on-the-ground innovations. The more mundane included the development of cotton cellulose, which was used for medical purposes (wadding). Cotton cellulose was later developed into sanitary napkins for women, and later, paper tissues. Paper tea bags were developed by an American.

**Factory Technologies and Management:** The early 20<sup>th</sup> century saw the Americans develop a new kind of "scientific" management for making factories both efficient and keeping employees optimally happy (an implementation of Jeremy Bentham's "felicific calculus"). It was called "industrial hygiene" and was adopted with great success in all kinds of factories and workplaces. The focus was on mass production, elimination of waste, and equitable treatment of workers. It was first used by Ford in the assembly-line manufacture of the Model T. Frederick Taylor was effectively articulated the concepts, and it was used as a foundation for later engineering endeavors, including industrial engineering and management.

**Rise of Labor Unions and Trade:** Due in large part to the exploitive, dangerous, and inefficient use of labor in mines, factories, ships, docks, and other areas, and the need for specialization, labor unions formed in order to fight the oligopolies that wished to minimize labor costs. The trade unions arose as a political choice in the early part of the century, when countries resolved the problem by not allowing private ownership at all, and elected socialism or communism. The U.S. upheld private ownership (either by individuals or corporations), and at the same time implemented protections through the use of labor laws and unions (who had strength through labor laws). The unions truly transformed American labor and resulted in a high standard of living for union members. However, with the advent of labor-saving technology, and the pressure of unions to continue to add benefits, many unions found themselves to be unsustainable. The trend in the late 20<sup>th</sup> century was to rely on governmental protections of labor and not collective bargaining.

**Cultural Innovations:** This article has focused on industrial innovations, but it is worth mentioning that in the 20<sup>th</sup> century there was significant crossover, and the cultural innovations sparked new developments and demand for better communication, computing, and production techniques. Some of the examples are in the entertainment industry: music (jazz, rock, hip-hop, classical music); film industry (the "talkies" of the 20s, and then those with extreme special effects, starting with color, and ending with animation and 3D images); travel and tourism (the theme parks, such as Walt Disney World, and festivals such as Woodstock, Altamont (a negative impact), and Coachella (electronic music).

## Discussion/Questions

1. When Columbus and the other Europeans arrived in the Americas, they did not find a barren wasteland devoid of organization or civilization, although at times it was convenient to depict American indigenous peoples in a negative light. Instead, they found elaborate cities with complex engineering, and systems of agriculture that allowed stable communities to emerge. Describe some of the agricultural and engineering innovations of the peoples in America before the Europeans.
2. The colonial settlers used innovations to make their production of raw materials for England to be more efficient. In the Northeast, the need to process the furs, skins, hides, and other materials led to innovations. In the South, the plantations needed improved technology in order to make their operational sustainable. Discuss 4 or 5 of the innovations during Colonial America.
3. The 19<sup>th</sup> Century was a time of westward expansion and also industrial revolution, with the rapid development of canals, railroads, and methods of communication. List the different innovations that contributed to the Westward Expansion and describe to costs and benefits of each.
4. The 20<sup>th</sup> century has seen numerous generations of innovation, some so profound that they are called revolutions. Explain the kinds of innovations that occurred during the Second, Third, and Fourth Industrial Revolutions, and provide a few examples of the way they changed everyday life for the average American, and how they opened opportunities for those seeking a better life (or a more interesting one) from countries experiencing crisis or ongoing instability.

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## Part II : TRADE

**Overview** From its origins as a continent populated by people on the move, arriving from the Bering Straits and making their way down the continent all the way to Mexico, North America economic activity has been dominated by trade. Even the early Clovis culture groups traded arrowheads and knives, with prized obsidian knives being turning up hundreds of miles from their provenance. In its history, any attempts at isolationism, protectionism or import restrictions have almost always hurled the economy into a recession and sometimes a deep depression. Current attitudes about digital trade continue the debate about intellectual property, access, and oligopolistic control.

## ANCIENT PERIOD

## PreHistory

**Clovis culture (18,000 – 8,000 BC):** Archeologists have long believed that the first Americans came from Asia across what was then a land bridge across the Bering Strait. Based on arrowhead and other artifact evidence, the Clovis culture extended from northern Canada throughout central America. There were trade networks throughout the settlements, and there was trade with tools (spear points, adzes, axes). The axe heads were often decorated with specific cross-hatching decoration and scoring (to help with better cleaving).

## Classical

**Southwest Pueblo (1200 BCE – 1300 AC):** The Pueblo Indians who lived in structures in cliffs and also in the desert Southwest established extensive trade networks, which is evidenced by the abalone shells from the Pacific, the flint knives from Alibates (Texas Panhandle), and coral from off the Yucatan Peninsula. The Hohokam of south-central Arizona produced a pottery they decorated with red pigment which can be traced to New Mexico, which indicates trading relationships.

**Eastern Woodlands (1000 BCE – 1000 AD):** Trade between the neighboring Eastern Woodlands Algonquian tribes (groups), the Iriquois and other groups formed an important part of the economy. The most important product was the beaver pelt. In addition, some groups traded fish for corn.

**Mississippian (800 – 1500 AD):** As the architects of large population centers and earthworks (mounds / pyramids) all along the Mississippi River and its tributaries, the Mississippian established complex and far-reaching trade networks. At mounds in Cahokia (East St. Louis, IL), Spiro (Oklahoma), and Moundville (Tuscaloosa, AL), artifacts using raw material from far away have been found, including copper from the Great Lakes, quartz from Hot Springs, Arkansas, and shells from the Gulf of Mexico.

## Colonial (Early Modern)

**Native Americans:** Trade networks were established between the French and the Indians of the Northeast, who exchanged fur for firearms, tools, and alcohol. Other fur trading was established with English colonists as well, who included cotton fabrics and beads in their exchanges. In the meantime, Indians continued to trade with each other, although their relationships were problematized by the persistent attacks and attempts by the French and the British to "divide and conquer" as well as outbreaks of smallpox and measles.

**Fur Trapping and Trade:** Many colonists of European descent used the fur trade as a way to earn a living, and also to gain access to new areas. In fact, many of the early explorers were also trappers and hunters. They sold their pelts (mainly beaver but also fox and mink) to traders who often exported them to Europe, where they were in very high demand.

**Plantation Products Trade:** Tobacco, cotton, indigo, rice, and sugar were in very high demand as raw materials for the small manufacturing facilities and tabacconist traders of England. As a result, the economy of the Eastern Seaboard, from Maryland south, was very dependent on that trade, to the point that the factories of Northern Europe dictated their crops.

**Quest for Gold:** The early quest for gold in the North American colonies and in New Spain (now New Mexico, Texas, and Colorado) resulted in expeditions by explorers such as Hernan De Soto, as well as the establishment of new trading posts and small communities.

**Missions and Trading Networks:** The Jesuit missionaries established missions throughout what is now Mexico, Colorado, New Mexico, Arizona, and California. They used the missions as locations for churches and settlements for Europeans and Indians, as well as points for trade and banking.

**Slave Trade:** One reason why the slave trade was so persistent was the fact that the owners of the large cargo ships (sailing ships) could assure that each voyage would have passengers, meaning that there would not be any voyages with empty holds.

**Black Market and Informal Trading Networks: Outlaws, Pirates, Buccaneers, Corsairs:** Ships bearing gold coins from the mining regions of Mexico and Colombia were often attacked by pirates, resulting in a very lucrative black market. The same ships were also attractive targets for the hungry governments of Spain and France, who would not engage in piracy directly, but would issue licenses officially allowing attacking and stealing the cargo, plus pressing the crew into their own militaries (a kind of licensed kidnapping).

## Nineteenth Century

**Raw Materials (Plantation, Mining, Fur, etc.):** The plantation system expanded dramatically with the advent of the Industrial Revolution in England and the development of massive factory towns that produced textiles, leather goods, and industrial equipment. Trading the plantation raw materials expanded to New England as well, as factories specializing in textiles, leatherworks, and paper expanded dramatically.

**Industrial Revolution / Trade in Manufacturing:** The invention of the steam engine, the cotton gin, the spinning jenny, and other items enabled factories to thrive, especially those located on rivers that could use hydropower to generate energy for the engines and could dump waste products as effluents into the streams. The materials that were produced were traded along trade routes that included riverways, canals, trails, and railway systems.

**Utopian Settlements:** Many of the utopian experiments of the 19th century in North America depended heavily on trade based on their unique products such as furniture, herbal medicines, and useful household items (the Shakers) and the agricultural products produced on Amish, Mennonite, and even Mormon farms. The Oneida free thinking community became well known for its silverware. Trade tended to be focused between either local communities or with other branches of the same religion or group.

**Wars (1812, 1848, Indian Wars, Civil War, Post Civil War Indian Wars, 1898):** Wars in the 19th century stimulated trade between nations for the inputs needed for the war efforts, and thus blockades and supply chain disruptions were deeply felt in the war effort(s). The regional wars of 1848 and the Indian Wars dramatically increased the demand for guns, provisions, and horses, which were generally obtained from either the manufacturers in the Northeast, who shipped by train, or brought across the border from Mexico.

## Twentieth Century

**Oligopolistic Trade of the early 20th Century:** The early 20th century was marked by monopolistic and oligopolistic control not only of the inputs for manufactured goods, but also the means of manufacture and transportation. The railroads were owned by oligopolies, as were the oil, steel, and coal producers. As a result, the costs for some goods were artificially high, and the companies with oligopolistic control tended to be able to influence politicians, not only in the U.S. but also in other countries such as Cuba, Mexico, and Central America.

**Anti-Monopolistic Legislation:** President Theodore Roosevelt's war on monopolies and oligopolies was not without its challenges. There were armed uprisings as labor unions, anarchists, and other organized groups fought the monopolies. The final result was legislation that led to the breakup of the monopolies into smaller companies that could compete with each other.

**Protectionism:** Trade was restricted throughout the first part of the twentieth century in the United States because of a wall of tariffs, which created, in essence, a barrier to trade. Many economists have blamed the Great Depression of the 1930s to high tariffs, import quotas, and foreign exchange controls that resulted in pernicious protectionism.

**Rise of Labor Unions and Trade:** Labor unions were protectionist in their orientation since they wanted to protect the jobs of their union members. However, in order to have jobs as longshoremen, Merchant Marines, steelworkers, etc., it was necessary to have markets and an industry. So, labor unions were often in the paradoxical position of both supporting free trade and imposing restrictions and limits on what could be done in conjunction with the movement of goods.

**Interstate Commerce Compacts:** With the rise for the Interstate Highway System (freeways), was the realization that every state had regulations governing what could be sold within the borders. There were often controls imposed

on agricultural products in order to avoid disease and parasites. In order to make sure that regulations were uniform, and that truck drivers and shippers knew the rules before heading on their journey, the Interstate Compact Commission was formed, and agreements were forged and signed between the different states of the Union. The regulations governing the transport of goods applied to vehicles as well as pipelines.

**Cartels (Drug Trafficking, Human Trafficking):** Illegal activities did not cease just because they were illegal. If anything, in some cases, the trafficking increased spurred on by higher profits which could be gotten by not paying taxes (since bribes are usually lower than taxes) for the activities that were putatively legal. Illicit trade of drugs, human beings, etc., was controlled by gangs and sometimes foreign national-controlled cartels. The impact on society has been negative.

**NAFTA (North American Free Trade Agreement):** With the assumption that trade between neighbors would expand markets, aid in competition, and result in better business conditions for all, the North American Free Trade Agreement was signed. While it has resulted in better relationships between Mexico and Canada, there are also downsides in that it has led to a dramatic need for decreased costs of production, resulting in downward pressure on wages.

**Intellectual Property and Technology Trade in Digital World:** Trade in intellectual property used in communications technology, computing, high-tech manufacturing, pharmaceuticals, the health industry, and more, have had a significant impact on the development of products and services in the United States. Every activity and transaction is, in essence, trade, which means that what is often commonly thought of as "services" is, in another sense, trade.

#### Discussion/Questions

1. There were four different pulses in the Mound Builders, and it is believed that the Mississippian, with its communities positioned along the Mississippi River and its tributaries was the most extensive and dependent on trade. Describe the different artifacts that contained materials obtained from many miles away, and explain why they might have been useful to the Mississippian mound building communities of Cahokia, Spiro, and Tuscaloosa.
2. The beaver, fox, muskrat, and mink fur trade was enormously important for members of many different groups during Colonial America and in Canada. The French fur traders used the proceeds to finance their communities, and the French government was able to receive taxes from it. The Georgian government of the 18th century was also motivated by the taxes, plus by being able to issue permits and licenses for the fur trade. Describe the importance of the fur trade to the American colonists before, during, and after the Revolutionary war.
3. In the 19<sup>th</sup> century, the Industrial Revolution changed the scale and scope of trade primarily because of the enormous demand for raw materials. Describe how the hunger for raw materials in the mills and factories of northern England and in the northeast United States changed the nature, size, and type of crop production in the South.
4. In the first part of the 20th century, different phenomena occurred which created deep imbalances in trade, and which had deleterious effects on the economy. The first was the control of markets by monopolies. The second was protectionism in the form of tariffs, import quotas, and foreign exchange restrictions. Describe what was done to combat the imbalances and the impact that the changes had.

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