**BA 476 Class 4**

**Agribusiness & the Expansion of Commerce**

**COLONIAL AGRICULTURE**

To the end of the colonial period, 95% of Americans made their living in agriculture. In fact, to the end of the 19th century, agriculture remained the leading vocation in America.

Any economy which relies on agriculture is a primitive economy. Such an economy lacks capital, mass markets, skilled industrial labor, good transportation, and so on. All of these ingredients were lacking in the colonies at the outset, just as they are lacking today in certain less developed areas of the world. To survive – to obtain food, clothing, and shelter – colonist turned their attention no agriculture and the extractive industries – fishing, lumbering, fur trading and iron mining.

Of the settled regions along the Atlantic Coast, the tidewater area was the most suitable for agriculture. The tidewater area is the coastal plain, where tides affect rivers. Tidewater generally runs up to the fall line, that is, the point where rivers are no longer navigable. In New England, the tidewater area generally extends no more than 50 miles inland. In the Carolinas, tidewater extends up to 250 miles inland.

In New England, the soil was covered with rocks. This factor, coupled with short summers and severe winters, restricted the Puritans to general farming of such crops as corn, beans, and onions. Corn had been introduced to the settlers by the Indians; it proved an ideal crop. New England farms generally were small for several reasons: the restricted farming area, the high cost of labor, and the fact that general farming did not require large amounts of land.

## Both North and South, colonists prepared their soil poorly. They had little interest in enriching the land. They sought a quick return, and “mined” the land, rather than cultivated it. This feature of agriculture remained a problem in America until the 19th century. Mining of the soil was largely explained by the amount of land available to the west. Why bother to fertilize soil or rotate crops when one could always move on to new land. Thus wasteful characteristics of agriculture have been with us from the beginning.

In the South, a different kind of agricultural economy emerged. There, because of the warmer climate and larger tidewater areas, staples such as tobacco, rice, indigo, and cotton could be grown. In Maryland, Virginia, and the Carolinas – the upper South – the main crop was tobacco. The founders of these colonies had hoped that a mixed economy would develop in this area – that hemp and naval stores, as well as edibles, would be produced. But from the time tobacco was introduced in Virginia, the weed was king.

The Jamestown colony went all but tobacco mad from the first few years of colonization onward. Tobacco was grown everywhere in and around the colony, including the streets of Jamestown. In fact, the Colony almost starved because of the attention devoted to tobacco growing. Nobody, as it turned out, was growing anything that could be eaten – and if it weren’t for supply ships arriving in the nick of time from England, the colony would have perished. All tobacco shipments were made to England, which in turn, re-exported two-thirds of its imports. In time, England, to encourage tobacco growing in the colonies, forbade the growing of tobacco in England, and also gave tariff preferences to colonial growers.

The tobacco culture depleted the soil. The life of a tobacco field was only three to eight years, so growers had to use fertilizer or clear new land. The typical planter simply went onto new land, a practice which put a premium on waste and extravagance and encouraged greed. Over a period of time, this practice also crowded out small farmers; the big operators won out.

Tobacco planters occasionally had over production problems which resulted in depressed prices. In response to this problem, one colonial government tried to check overproduction by retracting the acreage that planters could devote to tobacco. In other words, the government adopted policies somewhat similar to today’s acreage allotment plan. A couple of colonies also attempted to control crop size by inspecting tobacco and cutting out inferior grades. What we see here are colonial precedents for modern-day decrees and regulation. As we move through colonial and early U.S. history, we’ll see a great deal of this kind of thing – more than you might expect to find in a nation whose people, until the New Deal era, prided themselves on laissez-faire. In the case of colonial tobacco controls, however, the British crown resisted colonists’ efforts to control crop size and thereby adjust prices. This perhaps was to be expected, considering that the crown received more revenue from large rather than small tobacco importations. Furthermore, while some colonies, notably Virginia and Maryland, were interested in crop controls, other colonies were not. Thus colonial tobacco crop control schemes did not succeed.

In the lower South – South Carolina and George – rice and indigo were the most important staples. Rice was first gown in inland swamps, then in coastal and island areas. It remained an important crop until the Revolutionary War. Indigo was introduced in 1740 from the West Indies. The indigo plant was a small shrub three to five feet in height. Its leaves contained a pigment used for dying.

The only important source of indigo before 1740 was the French West Indies. But with France and England at war during the 1740s, South Carolina and George saw a chance to grow indigo. The South Carolina legislature voted a bounty – a subsidy of so much a pound – for indigo in 1744. This bounty was withdrawn because of a lack of funds two years later, after which England provided a bounty on the crop. Here are early examples of government subsidies of an economic interest group – not too dissimilar to what we have today in agriculture.

Indigo also was grown in George and in Florida after 1763, but plantings were not nearly as extensive as in South Carolina. Part of indigo’s importance could be traced to its growing season. It could be grown on the better drained rice fields during the six months that rice was not being grown. This meant that plantations could keep their slaves busy the whole year round. Such plantations had little shutdown time, if we may borrow a factory phrase.

As for cotton, very little was grown in the South through the end of the colonial era. Why? Because a suitable method of cleaning cotton was yet to be discovered, and what good was it to grow large quantities of cotton if it is cleaning was prohibitively expensive.

Much of North Carolina did not have a cash crop, the colony remaining something of a frontier area during the 17th century and into the 18th century. However, the Piedmont and back country of North Carolina made excellent grazing land, so cattle raising was carried on. The region, in fact, took on some of the characteristics of the cattle country of the West during the 19th century. There were roundups, brandings, cowboys – and the inevitable fights with Indians and sheepherders.

Agriculture in the Middle Colonies – New York, Pennsylvania, New Jersey – tended to resemble that of New England rather than the South. There was one vital distinction, however. The Middle Colonies had a staple for export: wheat. Because of wheat growing, there colonies earned the name, “The Bread Colonies.” Most of the Bread Colonies’ wheat was sent to the West Indies.

Land was the chief speculative commodity during the colonial period. Land speculation was a perfectly respectable thing. Men such as Washington and Franklin, for example, were speculators. Washington, in fact, became one of the richest men in the 18th century America – and perhaps the richest of all of the presidents from the standpoint of what a dollar would buy – largely through speculation in Western lands, that is, lands west of the Appalachian Mountains. He first spotted this choice land as a 21-year-old in 1754, while fighting the French and Indians. Later he bought it, and eventually sold it in parcels for substantial gain. This was a familiar pattern. Most land speculation dealt with frontier lands and involved buying cheap or getting land free, then holding on and selling for a profit. It wasn’t long before battles developed between speculators and settlers, and battles between these two groups continued until the country was filled in during the late 19th century.

**THE FRONTIER**

The westward movement started almost as soon as settlement began on this continent. This constant drive to the West began in earnest after 1789, and between that year and the Civil War the area of the Ohio and Mississippi valleys was filled in. This process was one of the great colonizing movements of modern times.

The frontier was in a continuous state of flux, with different levels and kinds of economic activity succeeding each other.

Far out on the frontier was the fur trader. On the plus side, he charted many Western trails and brought back stories which advertised the West’s virtues. But, the fur trader was a disruptive factor inasmuch as he usually introduced Native Americans to arms, liquor, and disease.

The fur traders normally were followed by the cattlemen who grazed their herds just west of the settled area. Like the fur trader, cattlemen contributed little to the conquest of the wilderness.

Miners often were on the edge of the frontier, and at times jumped far ahead of it to exploit chance discoveries. On the whole, miners advanced in far less orderly fashion than fur traders or cattlemen.

Fur traders, cattlemen, and miners were followed by pioneer farmers.

Pioneer farms would make clearings and build rough dwellings for their families and animals. At first, they would grow only crops which enabled them to be self-sustaining. If some kind of transportation came their way, they’d clear more land and begin to produce an agricultural surplus. As people moved in around them, pioneer farmers, either because they disliked too much civilization or because they could sell their land at a profit, sold out and moved further west. Records show that such farmers shifted an average of six times in their life-times. They were actually small-scale speculators rather than farmers. Nearly all of these farmers were native-born Americans. Typical of them was Abe Lincoln’s father, Tom, who moved from Kentucky to Indiana to Illinois.

Pioneer farmers were followed by equipped farmers; men of some capital. These men usually were drawn from the settled areas just to the east of newly-cleared land. However, some immigrants came in as equipped farmers. These farmers came to stay. They cleared the land more thoroughly, replaced the log cabin with a frame house, fenced and improved the land, built roads, and so on. The economic future of these farmers depended upon adequate transportation and an exportable surplus.

The final stages of development on the frontier involved what might be called town or urban pioneers. The key men in this connection were the speculators in town sites, the men who attempted to found a community at a strategic point – a crossroads, the head of navigation on a river, or on a canal or railroad, they pray that people would move in. Some speculators made it big. The people who laid out Chicago, for instance, made a profit of 3,000 percent.

As indicated earlier, the Great American West was primarily a fur trading zone down to the 1840s, even past the Civil War if one includes the buffalo as a fur-bearing animal.

The center of the fur trade was St. Louis, located midway between the markets of the East and hunting grounds of the West. In St. Louis the traders picked up their supplies and shipped their furs to New Orleans or the East.

The “prince of fur traders” was John Jacob Astor, who, through fur trading and real estate activities, become one of the richest men in America. Indeed, according to some accounts he was reckoned one of the four richest men in the world.

Astor, born in Germany, came to the U.S. at age 20 in 1783. He worked in a New York fur store for a few years, learned the business, and then set up his own shop, handling fur and selling flutes in the same store. Astor first directed fur gathering operations in Western New York, then in the Great Lakes region after the British gave up their forts on American soil in 1796.

By 1800, Astor was the chief factor in the fur trade and also was beginning to ship to the Orient and to make prudent investments in Manhattan real estate.

After the Louisiana Purchase in 1803, Astor penetrated the Far West. In 1811, he established Astoria at the mouth of the Columbia River in Oregon for the trans-shipment of furs to Canton. Although Astor lost Astoria to the British during the War of 1812, he continued to gather furs in the Rocky Mountain region and actually carried on the trade with the British in the Great Lakes area throughout the war. The building in which Astor’s company directed its Great Lakes operations still stands on Mackinac Island. It now is a museum.

In the Rockies, Astor competed fiercely with a St. Louis firm, the Rocky Mountain Fur Company. The rivalry of Astor’s American Fur and Rocky Mountain Fur foreshadowed the in-fighting of the industrial giants of the post-civil War period.

Astor, for his part, plied the Native Americans with whiskey, and at times incited them to rob and murder. To insure an adequate liquor supply and to avoid government inspection, Astor built his own distillery on the Yellowstone River. He also habitually lowered prices in the face of competition, but, once competition was beaten down, raised prices higher than ever. Evaluating the tactics of Astor’s organization, Zachery Taylor described the American Fur Company as “the greatest scoundrel the world has ever know.” That’s a strong statement to be made by a president about a commercial firm.

Astor gained a monopoly in the Upper Missouri River territory, but was never able to push Rocky Mountain Fur out of the picture elsewhere in the West. A Rocky Mountain Fur trading port in western Wyoming has been restored by the National Park Service and is well worth a visit. Among those who worked out of this post was the famous trapper/mountain man, Jim Bridger.

Astor, like many of the great entrepreneurs, was a visionary. Specifically, in the early 1830s, he saw that the years of highly-profitable fur trading were coming to an end. By the time the fur-bearing animals were decreasing in number and a new process was being perfected to make hats out of silk rather than fur. With these developments in mind, Astor in 1834, at the peak of the business, disposed of his firm.

Astor lived until 1838, amassing a fortune estimated at from $20-$30 million. Moreover, his Manhattan real estate appreciated in value many times over after his death. The Waldorf-Astoria Hotel is named for him, Waldorf being the name of the German village in which Astor was born. There’s a statue of Astor in his home town, where he was more highly regarded by the public than he was here.

The fur trade remained important for a few years after 1834, but by 1840 the beaver was about finished, and only buffalo hides kept the trade alive in a substantial way for another 20 years or so.

The buffalo trade, however, was generally not as profitable as the trade in beavers except for a short time after the Civil War. The buffalo came close to a state of extinction. There were an estimated 50-60 million buffalo roaming the Great Plains in 1860, but only a few hundred were left by 1883. At that point, the federal government and some private interests began to take an interest in their preservation, and today there are several sizable herds out West. There are in fact, occasional government-sanctioned buffalo hunts to thin the herds.

The U.S. government played an important role in the fur business because the fur trade so directly concerned Indian relations. The government, as indicated earlier, was distressed by the way in which trade was conducted.

In an effort to raise trading standards, the government, in 1796 during Washington’s Administration, built and operated nine fur trading posts in Indian country. The government bought furs at fair prices and exchanged goods for furs in the equitable manner in the hope that its example would influence private enterprise to do the same. Here was an attempt, the first by the government, to provide private enterprise with a yardstick by which, it was hoped, Astor and others might measure up. This so-called yardstick principle was similar to that put forward by the Tennessee Valley Authority during the New Deal.

As one might expect, Astor and the other traders were unhappy about government competition. They lobbied among their friends in Washington, and with the help of the powerful Missouri Senator Thomas Hart Benton, were able to get the government fur posts closed in 1822.

Problems arising from the fur trade, as mentioned earlier, were not resolved until the fur-bearing animals had all but disappeared and fur trading was no longer important.

**CATTLE KINGDOM**

During the decades after the Civil War, America experienced the passing of the last frontier--the Great Plains, which encompass a million and a quarter square miles between the 98th meridian and the Rocky Mountains. The Great Plains were largely unsettled when the Civil War ended; and much of the area was thought of as great American desert. The Plains went through several economic stages. The area was a fur trading frontier before the 1840s. But by this time the fur bearing animals, except for the buffalo, had been largely wiped out. A mining frontier succeeded the fur frontier. The California gold rush of 1849 was followed by various rushes into the Great Plains, particularly the Black Hills region of the Dakotas. But by the 1870s mining no longer was in the hands of prospectors and small-time operators. By that time mining required trained engineers and large companies, so at this point the mining frontier came to a close, for an area with big companies can scarcely be classified as a frontier.

For at least two decades after the end of the Civil War, the cattle business held sway in the Great Plains. Throughout this whole area, cattle raising was by far the most important business activity. Cattle raising is the best documented and most glamorized of the frontier business operations. It has spawned innumerable movies and books about the cattle kingdom and cowboys.

Plains ranching originated in Texas. Cattle raising was important there even before the Civil War. During the war, however, the Mississippi River was closed by Union forces, most of the cowpunchers were in the Confederate Army, and cattle were running wild in large numbers, perhaps up to 3.5 million. When the war ended, these cattle were worth $3.00 to $4.00 per head in Texas, and about $40.00 per head in St. Louis or Chicago. The problem was how to get the Longhorns to the East in an economical, safe way. Texas had no rail connections with the East at the close of the Civil War, so the only alternatives were shipping cattle by river and driving them overland to the big Midwestern packing centers. But these efforts were largely unsuccessful.

In Illinois, a man by the name of James G. McCoy thought he had a solution to the problem. Why not, he figured, drive the cattle overland from Texas to the railhead in Kansas. The cattle could be received at the railhead, where special facilities for stock could be built and the cattle could be put aboard trains for St. Louis and Chicago. McCoy put this idea to the heads of the railroads in Chicago and St. Louis. The Chicagoans were receptive, but the president of the St. Louis Railway rejected McCoy's bid for support--a serious business misjudgment. All of the gravy for subsequent beef shipments went to the Chicago roads which operated to the West.

The initial long drive from Texas got underway in 1867 and ended in Abilene, Kansas, the first of the brawling cattle towns. Abilene was succeeded by other Kansas cow-towns as the railroad pushed west to link up with the Chisholm and other cattle trails. Ellsworth was the premier cow-town at one point, then Newton, Baxter Springs, and finally Dodge City. Dodge was the wildest town of them all, despite the marshal-ship of Wyatt Earp.

As for the Texas longhorns that ambled up to Dodge and the other cattle towns, they waxed fat on grasslands almost unbroken by fences. Some 5 million cattle were moved during the great years of the famous long drives--the years between 1867 and the mid-1880s. Meantime the buffalo were all but exterminated on the High Plains. When the cattle arrived at the cow-town, fat, mature cows were railroaded immediately to Chicago and other packing centers. Young or lean steers, however, were usually shipped to the corn states as so-called stockers and feeders. Corn prices were so low and cattle prices so favorable that farmers found it profitable to buy these cattle for fattening before going to market.

Texas was not the only place which raised cattle in great numbers. In fact, the Northern Plains--Wyoming, Montana, and the Dakotas--proved highly suitable for cattle raising, and cattle in the northern areas eventually became bigger than those in Texas. Thus by the 1880s the whole vast area of the Great Plains was dominated by the cattle industry. Even though railroads snaked their way through the Plains, the long drives were continued because it was much cheaper to drive cattle overland than to ship them by rail.

Starting in the early 1880s, the cattle boom attracted the capital of British and other foreign investors. The British, in particular, saw that American cattle were in great demand on the British market, and wished to cash in on the bonanza. Accordingly, they developed ranches of more than a million acres in size. The foreigners and native cattlemen alike had to face up to some difficult problems. Perhaps the greatest problem centered on the open range. Many cattlemen during this period did not own large chunks of land. In fact, they saw no need to buy huge spreads since they could graze their herds on the public domain. Up to 1880 the government had no objection to the use of the public domain by cattlemen. There was plenty of rangeland for all, and the priority principle held; the man who got there first was entitled to use the land. This was the unwritten law, and ranchers generally abided by it. But as more and more ranchers arrived on the Plains, the range began to get crowded. Competition developed for the best land, especially land with water holes or through which rivers ran. At this point some ranchers decided to fence in the rangeland they were using. Barbed wire had been invented in the 1870s, so fencing was no great problem. Fencing, in turn, led to fights between ranchers who did and did not believe in enclosing the land.

Even more important features of range life during this time involved the battles of ranchers against homesteaders, invariably and disparagingly referred to in Western films as "sodbusters." The basis of these battles was that the cattle barons were cutting off the homesteaders from land they legally could settle. The ranchers argued, with considerable justification, that the plains were ideal for grazing and not suitable for farming. Nonetheless, the federal government took the side of the homesteaders. U.S. land policy, in theory, was designed to promote a society of small farmers. Although the Great Plains was not suited to small farms, the government continued to apply the policies that prevailed in the East and Midwest. There should have been adjustments made--either larger homestead's allowed or leasing of land adjacent to homesteads. In any event in 1885 Congress authorized President Cleveland to remove all fences illegally placed and Cleveland in 1886 ordered the fences to come down. With this order the homesteaders won their battle with the ranchers.

In addition to the fights among cattlemen and the struggle between cattle barons and homesteaders, cattlemen and sheepherders also engaged in warfare during the 1880s and 1890s. Cattlemen complained that sheep cropped the range grass too short--that after sheep grazed over land, cattle were left with slim pickings. Cattlemen also insisted that sheep left an odor on the ground that repelled cattle and that sheep were constantly plowing through fences. Whatever the merits of these complaints, the cattlemen went after the less well-organized sheepherders with vengeance. The range was aflame with fighting for a couple of decades, especially in Colorado and Wyoming. In the 1890s, more than 20 men were killed and 100 wounded in this fighting, while more than 600,000 sheep were destroyed. The cattlemen's favorite technique was to stampede sheep and drive them over a cliff. As many as 8,000 sheep were killed at one time by this method. Often, too, cattlemen would poison water holes, but this could work two ways. Although the sheepherders had it rough for years, they eventually won a final victory. In fact, by the turn of the century in Montana there were half-a-dozen sheep for every cow. By this time many cattlemen had themselves turned to sheep raising. The profits were higher, and the sheep were better able to survive the severe Northern winters.

By the mid-1880s the cattlemen realized that their great days were numbered. The chief problem was overstocking--too many cattle feeding on the plains relative to the amount of grass available. The cattle population problem was settled in part by a disastrous winter in the southern Great Plains in 1885-86, and by an equally disastrous winter in the northern Great Plains during the following winter. Many large herds were virtually wiped out, and numerous cattlemen were pushed to the wall. The great days of the cattle kingdom came to a close after the mid-1880s. From that point on, cattlemen began to concentrate on smaller herds of improved stock and to grow grain for their cattle, storing it for winter feeding. Actually, many of the cattlemen became stock farmers; they raised cattle and the foods with which to feed them. Cattle raising, in consequence, became less speculative and more conservative in nature. It became more businesslike than it had ever been before.

As a consequence of the cattle boom of the mid-to-late nineteenth century, the Texas Longhorn came perilously close to extinction, perhaps even closer than the buffalo. Only a few score original descendants of the Spanish cattle from Mexico could be flushed out of the Texas brush lands by the 1920s. Since then the Longhorns' numbers have grown to about 3,000. The span of the original steers' horns was commonly five feet and sometimes reached six or seven feet. There are no seven-footers around today, but five-footers are again becoming common.

**INTERNAL TRANSPORTATION AND COMMUNICATION – ANTEBELLUM ERA**

The rapid improvement of transportation during the 70 years preceding the Civil War strongly affected the American economy and greatly speeded business development. Improved transportation made possible the rapid occupation of the West, increased the size of markets, and promoted specialized agriculture and the specialization or division of labor. All of these things are dependent upon the improvement of transportation.

The federal government played a crucial role in the development of transportation. At first the government stimulated transportation, and then regulated it. This regulation culminated in motor vehicle safety acts passed in 1966. Until that year automobiles were the only form of transportation not covered by federal regulation.

When George Washington took office, the country's transportation system was in a primitive state. Freight could be profitably moved for only short distances, with the exception of a few high-cost items such as furs and liquor. A major objective during the late 18th century was to break through the mountain barrier which separated the Atlantic Coast and the fertile interior--to connect the East with the Ohio and Mississippi rivers. No rivers flowed through these mountains, so people had to provide the linkup. Each of the key Eastern ports hoped to be the first to tap the West, and a great competition developed between such ambitious cities as New York, Baltimore, Boston, and Philadelphia.

***ROADS***

Private companies were preeminent in the road-building sphere. The first of these companies built a top-notch stone and gravel surface road from Philadelphia to Lancaster, Pa. between 1792 and 1794. Funds were raised through the sale of stock, and the right of way was obtained through the exercise of eminent domain. The road, built at a cost of $465,000, had tollgates at seven-mile intervals. The 62-mile road was an instantaneous success, with dividends to stockholders running as high as 15 percent in some years. The turnpike appealed to the citizenry, yet aroused hostility in that it invaded private property and charged tolls.

The success of the Lancaster Pike led to a turnpike craze that raged for about 35 years. Some of the roads which were built yielded large dividends, while others sustained huge losses. The turnpike craze was the first of two that America has known. The second one was touched off after World War II, after the Pennsylvania Turnpike and Hitler's autobahns, built in the 1930s, showed motorists the advantages of high speed expressways.

Turnpikes succumbed to the canal and railroad building era, and began to decline about the mid-1820s when the Erie and other canals came to the fore. During the first turnpike era, it may be noted that the states built few roads of any consequence. But they did regulate tolls and profits on turnpikes and had a say on the kinds of roads which private companies could build.

The most ambitious road built during the first century or so of the country's history was the Cumberland Road, later called the National Road. The National Road was started during Jefferson's Administration, and moved slowly westward from Baltimore. It was built slowly because Congress was continually arguing about the constitutionality of spending federal money on roads, and dragged its feet in making appropriations. By 1818, however, the road had crossed the Appalachians to Wheeling, West Virginia on the Ohio River. By 1852 the road reached Vandalia, Illinois, about 60 miles east of St. Louis. The road never reached the Mississippi during the 19th century because the railroads skimmed off its business and reduced the need for a trunk highway. The National Road made a comeback in the auto age as U.S. Highway 40, which ran from Baltimore to San Francisco

The old Cumberland Road was chiefly beneficial to Baltimore, which had a turnpike to Cumberland. The National Road itself was the only highway of any commercial significance built by the U.S. government prior to the 20th century.

Plank roads also were built in 19th century America. The idea for these roads was brought to the U.S. from Canada in the 1840s. Canada, in turn, learned about plank road construction from the Russians, who were the first to have built them.

Plank roads were made of thick boards, nailed crosswise. They were cheap to build, but rotted quickly since there was no creosote to prevent deterioration from the elements. Plank roads were designed to meet the needs of short haul transportation. They were particularly popular in the South and West, where their cheapness made them practical to construct.

On a good plank road, a horse or ox could draw several times more tonnage than on a dirt road. Thus, in the 1840s, plank roads were considered a serious rival of the railroad. On a railroad, a farmer couldn't drive his own wagon. He had to turn over his goods to the railroad. But on a plank road, each person could drive his own rig. He didn't have to depend on someone else.

However, the "farmers' railroad," as plank roads sometimes were called, couldn't hope to compete with the iron horse. The plank road era lasted only about 10 years, into the 1850s.

***CANALS***

There were only a few minor canals in the U.S. before 1817, when work was started on the Erie Canal. The idea of connecting the Hudson River with Lake Erie went back to the 18th century. The idea was feasible, there being no mountain barrier across the intended route of the canal, Albany to Buffalo. After failing to induce the federal government to finance the canal, New York State undertook the 364-mile waterway on its own. The Erie Canal, which made use of the Mohawk River and various lakes in upper New York State, was opened in stages. As soon as the first section was opened, it was obvious that it would be a huge financial success. The canal was completed in 1825 at a cost of $7 million, and it paid for itself within 10 years after it was started. Both passengers and freight naturally gravitated from muddy, dusty, and expensive wagon roads to the canal. The success of the Erie was evident to everyone, and led to "canal fever" in all other sections of the East and Midwest.

The Erie itself had important repercussions. It not only furnished transportation for many New Yorkers, but also tapped the Great Lakes area and Ohio territory. Beginning about 1825, a large part of the freight traffic that formerly had moved from the Great Lakes and Ohio country down the Ohio and Mississippi Rivers was diverted over the Erie Canal to the port of New York. Thus the Erie Canal helped to build up the port of New York, and helped to bind the West to the East, rather than the West to the South. The Erie reduced both the cost and time of shipping. Before the canal opened, it cost $100 and took 25 days to ship a ton of freight from Buffalo to New York City. After the canal was completed, it only cost $5 to transport a ton of commodities from Buffalo to New York, and shipments could be made in only six days. The Erie Canal also built up the big lake ports, not just Buffalo, but also Cleveland, Toledo, Detroit, and Chicago. The canal had an important impact on this area, for Southeastern Michigan's real growth began after the opening of the Erie Canal. Ann Arbor, for example, was founded just as the Erie Canal was nearing completion.

The Erie was one of the few major canals able to withstand railroad competition. It continued to prosper long after the start of the railroad era. In fact, peak tonnage on the Erie was not reached until 1889. Until that year, it continued to handle more and more volume.

The Erie's successor canal, the New York State Barge Canal, continues to operate to this day. The locks are 43-1/2 feet wide; almost all of the barges are about 42 feet wide. The Barge Canal carries mostly oil, coal, and grain, with 60 tugs and 80 cargo-carrying vessels operating on its 524 miles of waterways. Today, one can rent a diesel-powered canal boat at Cold Springs Harbor, near Syracuse, and ply the 100 miles west to Rochester.

Pennsylvania's answer to the Erie Canal was the Main Line, a system of railroads and canals chartered in 1826 by the state legislature. The central part of Pennsylvania is mountainous, and the lowest pass through the mountains is about 2,000 feet high. To push through these mountains, the Pennsylvanians developed one of the most fantastic combinations of transport in the history of the country. From Philadelphia, at tidewater, the Main Line covered its first 81 miles with a horse-drawn railroad. Then passengers and freight were put on a canal barge and towed 173 miles to the foothills of the mountains. At this point, the canal boats were separated into front and rear sections and mounted on rail cars. Then began a 36-mile trip on the so-called Portage Railroad. The rail cars were pulled over the railroad not by locomotives, which could never have negotiated the steep grades, but by stationary steam engines winding cables on drums. By this means the canal boats were lifted 1400 feet on the eastern slope to the summit, and then descended 1200 feet on the western slope to another canal at Johnstown. This canal, in turn, joined a river which meandered toward Pittsburgh, 105 miles away. And so the 400-mile journey could be completed.

The Main Line, completed in 1834, carried all of the traffic that the Portage Railroad bottleneck would permit. It was a success from the standpoint of operating at capacity. However, because of the Portage Railroad bottleneck--plus the fact that the Main Line had twice as many locks as the Erie Canal--the Main Line never presented any substantial competition to the Erie, carrying only 5 to 10 percent of the traffic barged over the Erie.

Many other states also spent large sums of money on canals. The Chesapeake and Ohio Canal went from the valley of the Potomac to Cumberland, Maryland, but couldn't break through the mountains.

In the West, two important canals were the Miami and Erie, which connected Cincinnati and Toledo, and the Ohio and Erie, which connected Portsmouth on the Ohio River and Cleveland. Both of these canals did a good business and helped to start the great flow of agricultural produce to the East via the Erie Canal. A section of the Ohio and Erie Canal, near Cleveland, has been named a national historic landmark. The longest canal ever built in the U.S. was the Wabash and Erie, which cut through Indiana. However, it was completed too late to have more than a few years free of rail competition, which eventually did it in. Another key canal, completed in 1855, was the St. Mary's Falls Canal, which connects Lakes Superior and Huron up at Sault Sainte Marie. This is the second of the two canals which have been designed as national historic landmarks.

Many other canals were built and hastened the growth of the country, and they would have played a more important role in the development of the country if railroads had not followed so closely on their heels. The canals couldn't compete with railroads except in hauling a few bulk commodities. Also, the movement of barges was made uncertain by floods, droughts, and freezing, and, at best, canal barges could never be moved as fast as could trains.

The government played a role in promoting canals. The federal government bought stock in four canal companies and gave land grants to five canal companies. State governments played a more important role in canal building than the federal government. The states moved into canal construction because private capital was insufficient to do the job. Businessmen often were unwilling to take the risk involved in canal construction since profits could be slow in coming. State governments, on the other hand, could better afford to wait for a return on their investments. The states found it easy to float bonds for canal construction until the Panic of 1837, which caught many states overextended. At this point, most states sold their investments in canals, although some retained them. In any event, the canal construction era was passing from the scene. It was obvious that railroads were going to supersede most canals. Not all canals lost out to railroads. Some, in fact, were still showing a healthy profit in 1860. Among the most profitable canals were the Erie and the Illinois and Michigan.

As noted earlier, some states, Michigan included, repudiated their debts in the wake of the Panic of 1837. Others delayed making payments. Virginia finally paid off in 1966 its obligation to those who held turnpike, canal, and railroad bonds dating to the 1830s and beyond. The failure of many state-supported canals --and railroads too--supplied later entrepreneurs and supporters of free enterprise with plenty of ammunition. Through the 19th century, the experiences of the 1830s and 1840s were cited as horrible examples of what probably would happen if government moved into ownership and operation of transportation facilities. The failure of government transportation enterprises thus made a lasting impression on many people, who perhaps forgot that one of the reasons the states got into canal and railroad construction in the first place was because, during this period, there was so much concern about and suspicion of private monopolies, real and potential.

***RIVER TRANSPORTATION***

In addition to canals, rivers also provided transportation in early America. At first, shippers merely put together a raft of logs, with some sort of cabin built on them. Then flat-bottomed barges or arks were developed that would go downstream only. At the end of a trip, say New Orleans, rafts, barges, and arks were broken up and sold for lumber. The crews would make their way back up North on foot or horseback. Then the keelboat, a boat with a keel, was developed; and such a boat could be rowed or pushed upstream, or dragged from shore.

But it was the steamboat which ushered in the great days of river traffic. Steam boating was begun on the Hudson River in 1807, and by 1820 was developing fast on the western rivers. By the 1850s, the peak decade of the steamboat, there were about 750 stern-wheelers and side-wheelers on the western waters. Travel by steamboat could be dangerous, considering the floods, ice, snags, sandbars, and sunken vessels which could obstruct traffic. In addition, the boats' high pressure boilers sometimes exploded, and such accidents killed thousands of passengers and crew members over the decades. Steamboats, contrary to what might be thought, were never as safe as railroads.

Many of the steamboats were sumptuously furnished, and one could travel in considerable style aboard them. Naturally, some of the boats attracted gamblers. The boats finally reached the point where they could skim over water only three feet deep. The boats would speed from 10 to 15 miles per hour downstream, and best of all, could plow upstream under their own power. This development revolutionized transportation for Westerners, making possible not only comfortable travel, but also traffic scheduling within certain limits.

By 1850, however, the railroad began to encroach on river traffic. If the speed of the steamboat helped it to succeed, the greater speed and greater certainty of arrival and departure times favored the railroad even more. In addition, railroad routes were more direct than those of river routes. Distances between two cities often were less than half as great by railroad as by river. The great days of steam boating occurred before the Civil War, but steamboats were widely used into the 20th century. Until the 'teens and 1920s, when roads were built along rivers and additional bridges flung over them, steamboats still made their way up and down many Midwestern rivers.

Today, there is only one old-time steamboat still in active service--the Delta Queen, operating out of Cincinnati. A newer sister boat, the Mississippi Queen, also is operated by the owner of the two vessels, the Greene Lines. Both air-conditioned boats carry passenger in comfort on the Ohio, Mississippi, and Tennessee rivers during the ice-free season.

There are still a number of riverboats operating throughout the Midwest, but nearly all of them are operated by diesel, rather than steam engines. The Huck Finn, based in St. Louis, is typical of these boats. They have a paddle wheel at the stern for show purposes, but these wheels don't generate any power. Screw propulsion, provided by a diesel, pushes the boats.

***STEAMSHIPS***

The ocean-going steamboat, or steamship, played an even more important and longer-lasting role in revolutionizing American transportation and commerce than the riverboats. Before the 1840s, sails were the primary mover of goods and passengers over extended distances, just as they had been since the days of Greece and Rome. But in the 1840s, steam-powered ships began replacing sail on major ocean routes, particularly on the all-important North Atlantic runs. In 1848, Samuel Cunard launched the first steam packet line between New York and Liverpool. Other ship owners quickly followed. In the 1850s, the growing use of the iron hull and screw population increased the size, speed, and efficiency of individual steamships. By the coming of the Civil War, the best paying ocean runs had all been taken over by the steamship. The British led in the adoption of steam-driven, iron-hulled ships. In fact it is at this point that the proud American merchant marine began its century-plus slide into near oblivion. Still, in the 1850s, the Americans, led by the Collins and Vanderbilt steamship lines, were gamely trying to challenge the British.

The steamship made dramatic cuts in the time of the trans-Atlantic passage. In the years before the 1840s, sailing packets usually required several weeks to make the eastbound run from New York to Liverpool, while an average of 35 days was needed for the westbound trip across the Atlantic. Steamships quickly cut travel time to less than two weeks. This sharp reduction meant that a single steamship could carry more freight and passengers between terminals in a given time period then could a sailing ship. Moreover, in the 1850s, the volume of freight carried by a single steamship was continuously being enlarged. As a result of this progress--together with progress being made on all other transportation fronts--in almost no other period in American history did the volume of traffic increase as sharply as it did in the dozen or so years before the outbreak of the Civil War.

On the Great Lakes, sailing vessels continued to carry more freight than did steamboats during the pre-Civil War years. But insofar as passenger traffic on the Great Lakes was concerned, the steamships took the play away from vessels powered by wind and sail.

***Merchant Marine***

The clipper ship era was receding in the late 1850s and the British had clear technical superiority in building steam- and propeller-driven iron and steel vessels. The Civil War simply worked to hasten the decline of the American merchant marine. During the war, many American ships were lost to privateers and in naval action. Many American ship-owners, worried about the dangers of wartime shipping, simply sold their vessels to foreigners. After the Civil War, the American merchant marine experienced a slight revival and then went into a long decline.

An exception to the decline was coastwise shipping, the tonnage of which increased between 1860 and 1914. American shippers had a monopoly in this sphere, thanks to an 1817 law which restricted coastwise trade to American-owned ships. Thus the coastal vessels carried huge amounts of coal, iron, lumber, sand, and stone up and down the seaboard. Lighter and more valuable coastal cargoes after the Civil War were hauled by the railroads.

The technical superiority of the British was not the only factor in the long-term decline of the American merchant marine. Another factor was the lack or smallness of government subsidies to ship-owners. The U.S. provided nominal mail subsidies to American shippers after the Civil War, but these subsidies didn't compare favorably with the mail subsidies given European ship-owners by their governments. After 1891, the American government increased the mail subsidy, but the stimulating effect by this time was negligible.

Another factor in the decline of the merchant marine was the government restriction against the purchase of foreign-made ships. American ship-owners were forbidden to buy foreign ships for American registry. A paradox was involved here. The government imposed high tariffs on materials needed for shipbuilding in the U.S., thereby adding to the already high labor and construction costs. Yet the government forbade U.S. ship-owners to buy ships more cheaply abroad. Finally, in 1912, Congress permitted American ship-owners to buy foreign-built ships, and later reduced tariffs on materials brought in for ship construction. But these reductions came rather late in the game from a competitive standpoint. Because of the handicaps under which American shipping lines competed--including the relatively high wages paid seamen—U.S. operating costs were considerably higher than they were abroad. Prior to World War I, the government provided no operating subsidies for American ship-owners. However, other countries did provide such subsidies.

The result of these conditions was that profits from U.S. shipping were lower than could be earned by capital in other fields. Consequently, capital tended to stay out of shipping. All of these factors had a remarkable effect on the carrying trade. In 1860, American ships carried two-thirds of the foreign trade; by 1914, the ships carried only 10 percent.

World War I made extra demands on shipping and stimulated shipbuilding even before the U.S. got into the war. Upon entering the conflict, the U.S. immediately seized half a million tons of German ships stranded in U.S. ports. But the shortage of ships was so acute that the federal government had to project itself into the shipping business. The government set up the Emergency Fleet Corporation, furnishing it with $4 billion to spend on new ships. As a result, more than 2 million tons of ships were added to the U.S. fleet by the armistice, and ships under construction at the end of the war continued to come off the ways for three years. Altogether, 2,300 ships were delivered; history's largest shipbuilding program up to that time. By 1921, American ship tonnage stood at the 11 million mark, compared with 750,000 tons in 1910 and 3 million tons in 1917. The question was: What to do with all of these surplus ships after the war? In 1920, the government decided to sell them to private interests at very low prices. Many of these ships were sold for scrap, Henry Ford alone having bought 199 of them in 1926 for $1,700,000--only 2 percent of their original cost. Ford dismantled the ships and fed them into the Rouge plant's steel mills—these ships thus being converted into Model Ts. Slowly, America's merchant marine dwindled throughout the 1920s and 1930s-- from 11 million tons in 1921 to 7 million tons in 1929 to 3.3 million tons in 1939. At that, the pre-World War II fleet was sizable—second in size only to Great Britain's. But most of the merchant vessels were old and slow.

Our merchant marine would not have been as large as it was by the start of World War II had it not been for the Merchant Marine Act of 1936. This Act, still the basic Act affecting the merchant marine, advanced money to shipping interests to build vessels, gave a construction subsidy to compensate for the lower costs of foreign builders, and an operating subsidy to overcome the advantages of foreign operators. Even with this encouragement, the U.S. merchant fleet was undersized in terms of dealing with the needs during World War II. As a result, the government again found it necessary to get into the shipbuilding business.

At a cost of $15 billion, the government financed the construction of 5,800 merchant ships, many of them the so-called Liberty and Victory vessels. It was as a builder of these ships that Henry J. Kaiser first attracted worldwide attention. His shipyards produced 1,490 vessels, more than a quarter of those built. In addition, he also built 50 small aircraft carriers. The Kaiser shipyards, averaging a ship a day, were regarded as amazing; and Kaiser himself was regarded as the miracle man of World War II. In public polls during the war, Kaiser again and again was voted as having contributed more to the war effort than any other civilian.

Since World War II, the maritime industry has continued to receive both construction and operating subsidies. The construction subsidy, for example, can amount to 55 percent of the difference in cost between building in foreign and domestic yards. Despite such subsidies, American merchant ship construction lagged between 1945 and the early 1960s, apart from the building of some tankers and a few superb passenger liners. Among the passenger liners was the SS United States, the flagship of the American merchant marine, which was completed in 1952. The largest American-built liner in history, the United States also became the first American vessel in a century to crack the speed record for transatlantic travel. The United States made the Atlantic run in 3 days, 10 1/2 hours, a record which still stands, and which, in this space age, seems secure. The United States was retired in 1969, and is now anchored in the Delaware River off the Philadelphia shoreline.

In recent years, merchant ship construction has increased slightly in the U.S., although problems linger. Too many ships are old. The U.S. cannot build ships as cheaply as foreign competition. Because of cost conditions, many American ship-owners fly foreign ‘flags of convenience’--Liberian, Panamanian, or Honduran.

The government continues to provide construction and operation subsidies to shipbuilders and shippers. In addition, the government provides indirect subsidies in the form of higher charges for shipments reserved by cargo preference laws for U.S. vessels. Despite this assistance, the U.S. merchant marine today carries only about 5 percent of U.S. ocean-borne trade. Although we are history's largest trading nation, we have a comparably small merchant marine that, in terms of the average age of its ships, is one of the oldest afloat.