
Contents

3 “The invention of the steamboat was intended for US”  
Steamboats and Western Identity in the Early Republic  
Kim M. Gruenwald

21 A History of the Steamboat Eclipse  
Robert Gudmestad

43 The Heroine of Louisville  
Archaeological Discoveries from an 1830s-Era Western River Steamboat  
Kevin J. Crisman

68 Collections Essay  
Tunnel Trouble  
Building and Rebuilding the Cincinnati Southern, 1869-1999  
Curtis Tate

78 Review Essay  
In Over His Head  
William J. Cooper’s Assessment of Lincoln’s Secession Crisis Role  
Daniel W. Crofts

85 Book Reviews

94 Announcements

ON THE COVER:  
Public Landing, 1835, by John Caspar Wild.  
CINCINNATI MUSEUM CENTER
Kim M. Gruenwald is associate professor of History at Kent State University. She is the author of *River of Enterprise: The Commercial Origins of Regional Identity in the Ohio Valley, 1790-1850* (2002).

Kevin J. Crisman is associate professor in the Nautical Archaeology Graduate Program (Department of Anthropology) at Texas A&M University, where he also directs the Center for Maritime Archaeology and Conservation. His most recent work, an edited volume, *Coffins of the Brave: The Nautical Archaeology of the Naval War of 1812 on the Lakes*, is currently being prepared for publication by Texas A&M University Press.

Robert Gudmestad is associate professor of History at Colorado State University and author of *Steamboats and the Rise of the Cotton Kingdom* (2011), and *A Troublesome Commerce: The Transformation of the Interstate Slave Trade* (2003). He is currently writing a history of the Union and Confederate brown-water navies during the Civil War.

Curtis Tate reports on transportation and infrastructure for McClatchy Newspapers in Washington, D.C. Over the past decade, he has worked as a reporter and editor at McClatchy, *The Wall Street Journal*, and the *Indianapolis Star*. A Kentucky native, he graduated from the University of Kentucky School of Journalism.

“The invention of the steamboat was intended for US”
Steamboats and Western Identity in the Early Republic
Kim M. Gruenwald

In 1848, artist Samuel A. Hudson unveiled a work that had taken him a decade to complete in a Louisville warehouse. His panorama of the Ohio River stood nearly a story tall and stretched over three quarters of a mile of canvas. Over the course of an hour, audiences took a journey from Pittsburgh to Cairo, with an abbreviated trip down the Mississippi River to Natchez and New Orleans as the great painting unrolled from one cylinder to the other. Hudson captured the spirit of Marietta, Cincinnati, and Louisville, as well as Indian mounds, the falls of the Ohio, and Cave-in-Rock. Broadsides advertised the chance to see “a great variety of water craft, including steamboats passing up and down the rivers...the villages and towns, the rich and fertile lands, and

Broadside for the steamboat New World, 1849.
CINCINNATI MUSEUM CENTER
all the peculiarities of Western Life.” People flocked to see it not only in western cities, but throughout New England as well. The panorama proved so popular that Hudson hired others to make a copy. When a building fire destroyed his original, Hudson took the second canvas on a tour of Germany in 1850. Historian Walter Havighurst writes that viewing the moving spectacle allowed audiences who knew of the region only through letters from family who had made the journey to see the shores of the beautiful river for themselves.¹

Hudson’s panorama stood as a testament to the tangible results of over a half-century of settlement in the Ohio Valley. When American colonists looked westward across the Appalachian Mountains, they saw space—a vast expanse that “suggest[ed] the future and invite[d] action.” If only they could make the valley their own, they could float their produce down the Ohio and Mississippi Rivers to the Atlantic trade world. The American and British challenge to the French for control of the valley helped spark a world war in the 1750s, and during the American Revolution those who had come to settle Kentucky took the opportunity to make forays against the Shawnees and other Native Americans north of the river. After the Revolution, veterans sought entry, though much of the land first passed through the hands of land speculators. The Ohio Valley invited action, indeed, and as one state after another gave up their claims so that the Confederation Congress could decide the valley’s fate, the United States took its first steps toward becoming a nation.²

But when most people consider the history of the Ohio Valley, nationalism does not usually come to mind. Traditionally, historians use the 1789 passage of the Northwest Ordinance that outlawed slavery in most instances to begin separate histories of the northern and southern banks of the river. Scholars allow sectional differences to dictate the history of the region, and state histories of Ohio and Kentucky abound. But empire-building in the name of the new United States preoccupied many minds in the earliest days, and when sectionalism first became an issue initial tensions grew between East and West rather than North and South. The Ohio River did not become a boundary until much later. The struggle over who would control steamboat traffic on the Ohio and Mississippi Rivers highlights this western regional identity in the 1810s and 1820s.

The Northwest Ordinance may have created an official border at the banks of the Ohio River, but those who transformed space into place—home where people live and work—had a more pragmatic view. Northerners and southerners, merchants and farmers, settled the valley together. The founders of Pittsburgh, Pennsylvania, Marietta and Cincinnati, Ohio, and Lexington and Louisville, Kentucky, planned for their towns in the interior to attract market-minded farmers. They would harness the Ohio and Mississippi Rivers to do no less than claim a continent for the new United States, and ties of commerce would bind East and West together as the nation expanded. Correctly predicting the future success of the site that would become Cincinnati, New Jersey judge and land speculator John Cleves Symmes
wrote, “From this Egypt on the Miami, in a very few years will be poured down its stream to the Ohio, the products of the country…which may be principally collected at a trading town, low down on the banks of the river.” As for himself, Symmes expected to be recognized later as a man who had “extended the empire of the United States and reclaimed from savage men and beasts a country that may one day prove the brightest jewel in the regalia of the nation.”

Merchants in the largest towns—Pittsburgh, Cincinnati, and Lexington—imported eastern goods and supported the artisans who helped outfit settlers heading for their new homes. Merchants in the Ohio Valley’s medium-sized towns acted as the middlemen between those at the portals and the shopkeepers in smaller villages. They gathered together flour, furs, and ginseng for export downriver. The streams and rivers of western Virginia, Kentucky, and Ohio supported this three-tiered system of towns that allowed the western economy to grow during the 1790s and early 1800s. A huge wave of immigration came west after 1800, and a vast amount of land changed hands as speculators large and small got into the game. Though the War of 1812 shut down international trade, merchants in the West responded by creating stronger ties with each other on both banks of the Ohio River. Manufacturers in Pittsburgh exported paper and leather goods, as well as hardware, and as the city grew, its residents consumed meat and produce from Ohio and Kentucky. Salt came from western Virginia, gunpowder came from Kentucky, and cloth manufacturers imported cotton from Tennessee. The white and red lead used to produce the glass and paint needed for Pittsburgh’s building boom came from settlements along the Missouri River. The lead also proved invaluable to Ohio potters.

But the residents of the Western Country also shared a frustration: their region could not seem to reach its full potential. Here they had all this fantastic land, a growing population, and a river system that could connect them to the wider world of the Atlantic and beyond, but their economy seemed to grow by fits and starts. People and goods had to travel great distances on rivers unsuitable to navigation by sail. Instead, they floated downriver along the river’s course on flatboats with the current, confining travel mostly to the spring and the fall when the Ohio ran high. Ice choked the river in the winter, but the Ohio ran low during the summer months. Only the spring thaw and autumn rains made the river truly navigable. In addition, the Ohio’s channel twisted and turned, and pilots had to keep a sharp eye out for snags and sandbars. At Louisville, the river dropped more than twenty feet in a little over three miles in a series of rapids that could be navigated.
only when the river ran high enough. Coming upriver required hard labor with poles, and few crews felt up to the task. After completing their business in New Orleans, most walked home across the Natchez Trace or they sailed to the Atlantic coast and crossed the Appalachian Mountains once more. Fully harnessing the potential of the Ohio and Mississippi Rivers required something more: steam-powered boats. In 1815, a Lexington newspaper quoted a Cincinnati editorial that proclaimed, “The invention of the steamboat is intended for US. The puny rivers of the East are only as creeks, or convenient waters on which experiments may be made for our advantage.” Engineers working on steam engines in the late eighteenth and early nineteenth centuries could not have agreed more; they had their eyes on the waterways of the interior of North America from the start.5

While working as a surveyor in Kentucky in the early 1780s, Connecticut native John Fitch looked out over the Ohio River and pondered how to harness enough power to go upstream as well as down. He began building models and experimenting with them in 1785. That same year a rival, Maryland-born James Rumsey, pursued a similar line of thought. “I am quite convinced,” he wrote to George Washington in 1785, “that boats of passage may be made to go against the current of the Mississippi or Ohio River.” When Rumsey took over as chief engineer of the effort to make the Potomac navigable, including building a canal around the Great Falls, his brother-in-law, Joseph Barnes, began building and testing boats. Fitch struck first, however, when he successfully demonstrated his version of the steamboat on the Delaware River to members of the Constitutional Convention in August 1787. Fitch and Rumsey battled over the patent rights to steamboats in subsequent years, with Fitch emerging victorious. But lacking strong technical plans to develop his steamboats further, others passed him by as his investors began to look elsewhere.6

In the 1790s, Pennsylvania native Robert Fulton experimented with submarines in France. In Paris he met the man who had secured the Louisiana Purchase, U.S. Minister Robert Livingston. Fulton later cemented their partnership with ties of kinship, marrying Livingston’s daughter. In the early 1800s, the two men developed their plans for steamboats on the Seine. When they returned to the United States, the New York legislature granted exclusive rights to steam navigation on the Hudson River to Livingston. In 1807, the two men launched the first successful commercial steamboat, christening it *North River Steamboat of Clermont*, later known simply as *Clermont*. The passenger ship ran between New York City and Albany, making the three hundred mile trip in thirty-two hours. The partners next set their sights on the Ohio and Mississippi Valleys, though harnessing the western waters had been Fulton’s goal from the start. In a January 1807 letter to Livingston, he explained that he began inquiring about the flow of the Mississippi years before while living in Europe. He had asked another man to make observations of the Ohio, as well. Fulton wanted to know when the rivers ran high and low, the depth of the middle of the channels, and how fast the rivers flowed. Fulton favored an engine designed and built by James Watt in Scotland for his plans. He told Livingston that a monopoly of the steamboat business in the West would “be the most lucrative that ever was obtained.”

In 1809, Livingston and Fulton commissioned a pilot and builder of steam engines well known to them, Nicholas Roosevelt of New York, to scout the rivers on a flatboat from Pittsburgh. His pregnant eighteen-year old wife made the trip with him. Roosevelt gave Livingston and Fulton a positive report and oversaw the building of their steamboat at the Ohio’s headwaters over the next two years. They named her *New Orleans* in honor of their destination. Lydia Roosevelt again accompanied her husband on a trip down the Ohio and Mississippi Rivers, this time with her two-year old daughter in tow and pregnant once again. They set sail on October 20, 1811, sharing the river with flatboats and keelboats as they journeyed west. As they approached Wheeling on the Virginia shore, a horseback rider spotted them approaching the
town, and rode ahead to tell everyone of their arrival. Roosevelt had sent posters ahead, advertising their trip, and people flocked to see the boat. For twenty-five cents per person, Roosevelt himself gave visitors guided tours of the cabins and showed them the engine, eager to sell subscriptions in the steamboat company.  

Ohio Valley newcomer Ebenezer Stedman well remembered the first time he encountered another steamboat on the Ohio a few years later. The flatboat taking his family to Limestone had tied up for the night when a steamboat passed by. “It frightened all hands except the pilot,” he wrote, for they “had never seen one nor heard one before.” The steamboat made a lot of noise, and the splash of the paddle wheels and roar of the steam engine “was enough to frighten any one on the River,” especially families making their first journey downriver into the western woods. He remembered seeing crowds gather to watch in awe when the steamboats passed towns along the way. Stedman wrote that it was “almost as great a wonder as a Flying angel would be at present.” One time Louisville resident David Meriwether also described steamboats frightening people, but he implied that this happened after New Orleans had safely passed over the falls and headed downriver.  

Downstream from Wheeling on the Ohio shore, the citizens of Marietta turned out to watch them approach as well, and fired off a cannon in their honor. Roosevelt wanted to stop at Cincinnati, but Lydia, eager to reach Louisville, insisted that they push on, and a disappointed crowd watched them sail by. Lydia had chosen wisely, however, for she gave birth to their son two days later in the place she felt safest. With the West buzzing with talk of a looming war with Great Britain, a boy who spotted the steamboat from the Kentucky shore ran to warn his neighbors that the British were coming. When his elders came to see what had caused all the fuss, they wondered if it was a new kind of sawmill. New Orleans arrived in Louisville at midnight on October 28, the noisy wail of escaping steam from the engine’s relief valve waking residents from a sound sleep. When they saw the sparks from the engine and heard the noise, some thought that the comet in the news all summer had fallen into the Ohio River. The steamboat tied up at Louisville for over a month, waiting for the river to rise enough for it to go over the falls. Visitors came aboard daily to gawk, and the town gave a dinner in Roosevelt’s honor at a local tavern. After spending the evening listening to their doubts, Roosevelt hosted a dinner onboard, shocking his guests when he fired up the engine and took them for a short trip upstream against the current.  

Thereafter, Roosevelt began making trips upriver to Six Mile Island, charging one dollar per person for the privilege. David Meriwether later wrote that Fulton’s brother Abraham taught school in town, and he managed to cadge a ride for David and a few of his friends. Roosevelt continued trying to sell shares in the steamboat company, but had few takers. When he learned that Cincinnati residents had felt slighted, the captain made the trip upstream in November
and docked for a week, taking groups for short trips to the mouth of the Little Miami River and back, again charging one dollar per person. The river rose slightly during the first week of December, leaving just five inches to spare below the steamboat’s hull. Fearing that winter would come and strand the boat at the falls until spring, Roosevelt made the decision to go down the rapids while the entire town watched. After successfully traversing the falls, the boat docked at Shippingport for a few days, taking on supplies. The party then set sail once more, accompanied by other craft and regularly stopping for fuel and visiting small settlements along the way.¹¹

A little over a week after they successfully rode down the falls, a series of earthquakes shook the Ohio Valley. The New Madrid earthquakes, with epicenters in northeast Arkansas and southeast Missouri, would have measured between 7 and 8 on the Richter scale today. The first hit on December 16 with more to follow in January and February. The crew had tied up New Orleans more than two hundred miles from the Mississippi when they felt the first quake at two a.m. More tremors hit the next day. They saw and heard banks ripped away with trees pulled into the river. They passed wrecked boats and the town of Henderson with not a chimney left standing. Roosevelt had expected the larger river to come through the quake relatively unscathed, but in fact the damage on the Mississippi proved far greater. The quake destroyed many landmarks, and the pilot sometimes felt lost. New sandbars and islands had appeared while others were gone. The Roosevelts and their crew saw gaps in the earth and huge bluffs where the banks had fallen. Trees leaned upriver, and stories circulated of the Mississippi flowing north for a time on that first fateful night. New Madrid lay

in ruins, but New Orleans passed it by despite a lost-looking crowd that gathered at the landing because the crew feared that people who tried to reach them by boat would swamp their own craft. Seven hundred miles lay before them with no real settlements between New Madrid and Natchez. The crew of New Orleans had to make their way along a channel experienced rivermen hardly recognized and avoid fallen trees and other hazards along the way. They arrived at their destination at last on January 10, 1812. New Orleans finished her career as a regular packet boat between the port and Natchez before sinking in 1814.12

But Livingston and Fulton found securing a monopoly to steamboat navigation on the Ohio and Mississippi Rivers more difficult than establishing their right to the Hudson. The partners petitioned the governments of Ohio, Kentucky, Tennessee, and the territory of Upper Louisiana, stating that their boats could shave a third off shipping times and costs. They wanted a twenty-year monopoly to recoup their costs for the first boat, and five years each for two more to come. First, the partners had to deal with other men working to establish steamboats in the West. In 1808, for example, Dr. William Thornton, an early investor in Fitch's company, protested their actions to the collector for the port of New Orleans, claiming that he had exclusive right to the Mississippi based on Fitch's patent. More important, the western rivers served as state boundaries, and westerners denied Livingston and Fulton's petitions. The Ohio house passed a bill in the pair's favor in late 1809, but the state senate balked. Fulton and Livingston had even less luck in Kentucky. The Kentucky legislature declared that it would "be dangerous and impolitic to invest a man or set of men with the sole power of cramping, controlling, or directing the most considerable part of the commerce of the country for so great a period."13

But the Territory of Orleans, later known as Louisiana, granted them their request. The territory's decision sparked a huge uproar along the Ohio when those to the north realized that Fulton and Livingston now controlled the lower Mississippi, their only path to the Atlantic. A correspondent to Cincinnati's Western Spy declared that "our road to market must and will be free; this monopolizing disposition of individuals will only arouse the citizens of the West to insist on and obtain recognition of their rights," meaning "the privilege of passing…unmolested, on the common highway of the West." The legislatures of Ohio and Kentucky protested vociferously and appealed to Congress for help. Governments had granted such monopolies to inventors in the East often enough, but the westerners saw them as an attempt by eastern commercial interests to control western trade.14

The partnership of Lauched & Lowry ran an interesting advertisement in the October 6, 1815 issue of the Western Spy. The firm declared that the new factory they had opened to produce scythes, sickles, and knives represented "another link in the chain of western independence." The same year, Kentucky papers published a series of articles that first appeared in Cincinnati. Identifying residents
of the Western Country as anyone who lived within the drainage of the waters that emptied into the Mississippi River, the writer described the eastern states as “contemptuous” of those in the West, regarding them as no more than colonies. And just as a tax on tea had produced a revolution, so too would the high freight costs of shipping goods across the mountains, prices the newspaper referred to as “extortion.” A second article labeled the extra fees added to freight costs as “tribute.” The writer demonstrated the feasibility and cost effectiveness of building boats in the West that would free the region from dependence on easterners. Cheaper goods would come through New Orleans, and eventually manufacturing would rise in the West.15

As early as 1813, entrepreneurs in western Pennsylvania began building steamboats to run between Louisville and New Orleans in open defiance of Fulton and Livingston’s monopoly. Fulton died in 1815, and the next year western newspapers widely reported the attempts by his successors to enforce their patent. Stories circulated about the rivalry between the heirs of Fitch and Fulton over who had actually invented the steamboat. In March, one paper called for Congress to affect “the annihilation of the swindling patent rights.” Another stated that a man who held patent rights went out of his way to “swindle, intermeddle, and vex his fellow citizens.” An April issue reported that steamboats with machinery “quite distinct” from Fulton’s designs were being held up in New Orleans. Territorial officials eventually allowed the captains to leave, but without any cargo to take back up the Mississippi. Congress had to do something, another western writer declared, and he called for the termination of patent rights. Congress had proved willing to fund transportation projects in the East, he argued, but not those across the mountains to ensure the West’s continued “subjection.” Fulton and Livingston’s company sued anyone who challenged them and had their cargoes seized, but by 1817 more than two dozen steamboats had made successful runs along the Ohio and Mississippi to New Orleans. One state court ruled that the territorial legislature did not have the authority to issue a monopoly, and the Federal District Court at New Orleans declined to get involved. The holders of the monopoly eventually gave up trying to enforce it a few years later.16

Fulton’s steamboat first descended the Ohio and Mississippi Rivers, but a craft designed by another first made the trip back upriver from New Orleans to Louisville, and then on to Pittsburgh. Daniel French had come west from Connecticut to try his hand at designing steamboats and settled in Brownsville, Pennsylvania, on the Monongahela. He began work in 1813, and after at least one false start built a boat smaller and lighter than New Orleans and powered by a high pressure steam engine based on the innovations of Oliver Evans. The Delaware-born Evans began producing engines in 1801 that found widespread use in the flour mills of Pittsburgh, Lexington, and Marietta before New Orleans made its historic journey. Future engines modeled on his designs produced
between fifty and one hundred twenty five pounds of pressure compared to the four to eight pounds produced by the Watt engine. Evans’s engines were also lighter and much less complex, using 90 percent fewer parts overall, and only half the number of moving parts. Entrepreneurs could build them cheaply and found them relatively easy to repair—facts that allowed more men to contemplate trying their hand at steamboating. French named his boat Enterprise, and one of his partners, Henry Shreve, served as captain. Shreve’s family had moved from New Jersey to western Pennsylvania in his youth. He had owned and piloted keelboats and made the trip from Pittsburgh to New Orleans and back a number of times.\(^{17}\)

Enterprise left Brownsville in 1814 and returned home the following year, fifty miles upriver from the Ohio’s headwaters. She made an impressive time to Louisville, and western newspapers trumpeted the news: “the success of the Enterprize which lately returned from New Orleans, in 34 running days” demonstrates “what these boats can perform.” Though they never made it past the falls of the Ohio, one of Fulton’s steamboats did make the trip from New Orleans to Louisville four times after French and Shreve showed that it could be done. Aetna caused quite a stir in 1816, opening “prospects of unparalleled trade and prosperity” for “the western country.” On one journey, she broke a drive shaft before reaching the Ohio, yet managed to forge on to Louisville with just one paddle wheel in working order. In response to Aetna’s troubles, “a Mississippi Trader” wrote to the Lexington Reporter suggesting that instead of attempting to ply the river fully loaded with cargo, steamboats should carry only machinery and fuel and tow barges loaded with goods. But western rivals had other plans and soon outstripped Fulton’s design.\(^{18}\)
Some remained skeptical, believing that low water would hamper steamboat navigation. Enterprise’s feat had impressed many, but doubts remained. The vessel had made her run when the Ohio River was at peak flood stage, occasionally going around rough spots through open fields along the river’s course. But a writer in the Western Spy argued vigorously that steamboats would revolutionize western transport. During the late summer of 1815, a steamboat had made a journey from Pittsburgh to Cincinnati, then went on to Louisville and returned to Cincinnati once more before other vessels that left the Ohio’s headwaters at the same time arrived at their first destination. The steamboat had reached Cincinnati in twelve days while those trailing it took twenty two. Echoing a common theme that year, the Western Spy correspondent argued that steamboats would strengthen the ties of union. If the West could become less dependent on the East, the writer concluded, easterners would stop taking their western cousins for granted. Another writer took up the issue of cost. Noting that current boiler design wasted much heat and required more fuel, he asserted that the “ingenuity of our western citizens” would soon improve boilers. Other news stories described deaths and injuries when steam engines exploded, but positive stories outnumbered the negative ones.

The steamboat Washington, designed and built by Henry Shreve, had one of the most famous voyages of this era. Shreve had been one of a handful of men most willing to break Fulton’s monopoly by brazenly docking their craft at New Orleans. Washington came up the Mississippi and Ohio Rivers to Louisville in just twenty-five days, shaving ten days off the old record in 1817. Unlike Enterprise, the much larger Washington had no aid from a river at its peak. A contemporary local historian wrote that Washington’s trip “convinced the despairing public that
steamboat navigation could succeed on the western waters.” The next generation of writers agreed: “After the memorable voyage of Washington all doubts and prejudices in reference to steam navigation were removed. Ship-yards began to be established at every convenient locality, and the business of steamboat building was vigorously prosecuted.” A modern historian, however, argues that widely circulated accounts and discussions of the cost-to-profit ratio in the same years probably had as great an impact. Steamboat production began in earnest in 1818. Residents of the Western Country made the manufacture and business of running steamboats their own, and they only expanded such ventures in subsequent years. Louis C. Hunter writes that while Fulton, Fitch, Shreve, and Evans all had a hand in establishing steamboats on the interior waterways of North America, most of the credit for innovation and adapting the technology to conditions on the Ohio and Mississippi Rivers rightly belongs to the unnamed “master mechanics, ship carpenters, and shop foreman” who did most of the work.20

Travelers commented on the growth of the new industry. In late 1819, Richard Lee Mason, while traveling through Louisville, went aboard “the largest steamboat in the world,” a ship named United States, at Shippingport. With a keel of over 165 feet in length, the craft utilized eight boilers. “Many of the steamships lying at this place are built on improved plans and are very handsome,” Mason concluded. About the same time, Englishman Thomas Hulme commented on the number of boats on the Ohio below Louisville, stating that they made ten miles per hour as they went downstream. He observed steamboat manufacturing at New Harmony, a German colony on the Wabash River, and on his return trip at Wheeling in western Virginia. Louisville resident Samuel Sevey wrote his uncle back in Boston that the number of steamboats at the falls increased rapidly. He observed up to ten ships on the stocks at a time, and noted that entrepreneurs built vessels that weighed between four and seven hundred tons. In August 1819, the Liberty Hall & Cincinnati Gazette published a list of the names of fifty-nine steamboats plying western waters, adding that a dozen others sailed the same rivers. By the 1820s, steamboats were a common sight, and residents described races, explosive arguments between different crews, and fires that burned vessels to the water line because of one accident or another. Within two decades of the first successful trip downstream steamboats had become a familiar part of life along the Ohio River.21

Just as the western economy seemed poised to take flight, however, a major obstacle appeared on the horizon, though it only served to strengthen western identity. After 1815, Americans capitalized on European demand for cotton and other goods while England and France rebuilt their economies after more than a century of sporadic war. The economy of the United States expanded rapidly, and Americans borrowed heavily from banks as they sought to take advantage of new economic opportunities. Western merchants had always relied on long credit. It took six months to a year to import goods from the East across the Appalachian
Mountains, store them in Pittsburgh to await a rise in the river, sell them and collect payment, export western goods south to New Orleans, arrange for sales there, and send payment back East. Farmers bought more land than they could pay for, expecting to sell the extra to the new settlers flooding into the Ohio Valley before their final payments came due. In an effort to keep up with growth, unregulated western banks issued notes that easterners refused to accept at face value. In 1816 and 1817, bankers from north and south of the Ohio River met to discuss the situation and devise ways to stabilize western currency. But they did not succeed. The headlong pace of expansion could not go on forever and it all went bust in the Panic of 1819. During the depression that followed, the price of most western produce fell by more than half, and by over two-thirds for some items. Trade stagnated, and Ohio Valley residents could not pay their debts. A rash of foreclosures followed.22

Daniel R. Southard to David Starr, July 1, 1819, Southard Papers, describing eastern merchants seeking to “prosecute everyone from the west.”

FILSON HISTORICAL SOCIETY
Many easterners blamed western extravagance for the trouble. A Louisville merchant making his annual buying trip to Philadelphia wrote home that easterners talked of prosecuting and throwing “everyone from the west” in jail. But westerners blamed eastern bankers, and one newspaper editorial went so far as to warn that a “dissolution of the union” might be possible. “Let nine tenths of these persons reside in a particular section of the union,” the Kentucky Reporter proclaimed:

let that section be pre-eminently well situated for the formation of a separate government; let the existence of the debt depend on the continuance of the union; let the doctrine be advanced and enforced by every press and every orator…that the other states had no just and natural right to the property for which the debt was incurred, while those states insist rigidly on an enforcement of collection; and where will the bonds be found sufficiently strong to hold us together? They do not exist! No people are more patriotic and firmly attached to the government of the union than those of the west; the idea of separation has never been indulged; it is literally abhorred; but their patriotism and fidelity are not invincible.23

Steamboats helped Louisville recover more quickly than most other western cities. Traffic upstream grew tremendously in the 1820s, and Louisville became the center of steamboat operations (if not production) on the Ohio River. The city’s merchants handled almost all of the goods moving into and out of the region. Louisville built a canal around the falls of the Ohio in the late 1820s, but as steamboats grew larger the locks proved useless for all but the smallest craft before the end of the next decade. As a result, most of the steamboats that arrived in Pittsburgh came from Louisville. One set of boats brought goods from New Orleans and St. Louis to the city at the falls, and another group took the goods upriver. Both before and after the Panic of 1819, Louisville’s population grew more than ten times faster than Kentucky’s as a whole.24

Steamboats fulfilled their promise in terms of the cost and speed of transportation in the West. The crew of one of the old barges or keelboats took nearly four months to travel upstream from New Orleans to the falls at a top speed of ten or twenty miles in a day, and thus few made the trip. From the beginning, steamboats could travel fifty miles in a day, and the fastest could double that by the mid-1820s. The trip to Louisville took about a month before 1820. The time fell to less than three weeks a few years later, and a voyage of a little under a week was common by the 1840s. The cost of shipping goods upriver dropped 80 percent within a decade of the first voyage of New Orleans. A thousand steamboats docked at the falls of the Ohio in a year, they arrived in Cincinnati daily, and docked at Pittsburgh once a week by 1830. Pittsburgh made good use of nearby rich timber supplies, as
well as the development of local iron and machine manufacturing, to become the most important producer of steamboats before the Civil War. Together, the cities of Cincinnati, Louisville, and Pittsburgh launched the vast majority of the thirty-five hundred vessels built in the West. Steamboats and their repairs also sparked lucrative machinery industries in other cities along the Ohio and Mississippi Rivers.  

In New Albany, Indiana, for example, the steamboat’s impact peaked in the 1850s. The largest boats manufactured in Pittsburgh had no way around the falls of the Ohio, enabling entrepreneurs in New Albany to take on the task of building larger craft for use between Louisville and New Orleans. Some local craftsmen specialized in constructing hulls, some in manufacturing engines and other machines, while a third group provided cabins and decks. Larger jobs might employ seventy-five men, including carpenters, shipwrights, and other laborers. On one day in May 1859, thirteen boats stopped in town, a half dozen going to or arriving from Louisville, and others going to and from New Orleans, Pittsburgh, Memphis, and St. Louis. When the river ran too low for shipping, as many as fifty boats might dock at New Albany for painting and repairs. Farmers in the town’s hinterland relied on New Albany’s shipping industry to help them get their goods to market.

Little wonder, then, that those who lived along the Ohio resisted the sectionalism that engulfed most of the rest of the nation in the 1850s. Following the example of the firmest of western nationalists, Henry Clay, people living along the northern and southern banks of the Ohio River strove for “compromise and moderation.” In the presidential election of 1860, well over half of Ohio Valley voters between Cincinnati and Louisville rejected both Abraham Lincoln and John Breckinridge, throwing their support instead to John Bell of the Constitutional Union Party or Democrat Stephen Douglas. Ohio Valley residents feared sectionalism would ruin their region because secession might block trade through New Orleans. But residents of the northern and southern banks also shared work, family, and friendships. During the early years of the war, Kentuckians believed that their counterparts immediately across the river posed no threat to their slave holdings. Only the raids and violence of the war changed their outlook, and during Reconstruction Kentuckians came to identify with the South. Still, no state bordering the Ohio River seceded from the Union. In fact, the only change of political boundaries involved western Virginians along the Ohio breaking away from the Old Dominion to remain in the Union.

Samuel A. Hudson first came to the Ohio Valley in 1838. He traveled up and down the river by steamboat and flatboat four times, all the while observing, exploring, drawing, and planning his masterpiece. The panorama Hudson created over the next ten years depicted the lively region he knew well along the river’s northern and southern banks rather than a dividing line between North and South. The river did serve as the official boundary for each state along its course, but the Ohio united westerners by providing the artery for trade into and out of
their region. Worries over losing access to New Orleans preoccupied westerners in the 1790s and early 1800s when tension between Britain and France dominated American foreign policy. When those concerns faded, westerners came together to battle eastern interests, whom they believed sought to keep the region in a dependent position, stifling the growth of the western economy.

Robert Fulton may have combined the best of contemporary engine design with the business and political savvy necessary to prove that steamboats could conquer the western waters, but westerners themselves took his ideas, improved on them, and turned them into something tangible. During the battle over Fulton’s attempts to monopolize the western rivers, Ohio Valley residents claimed for their own entrepreneurs, inventors, and builders free rein to expand commercial networks and develop manufacturing in the West. They wrote of western independence, but emphasized that the nation as a whole would prosper if the East would cease treating them like subjects instead of citizens. And they were proved correct, for steamboats provided the foundation for the growth of the West’s—and the nation’s—economy. The history of the Ohio Valley is much more than the sum of the histories of the states that border the river. For more than seventy years, Americans from the North and the South settled the region together. During those crucial decades following the American Revolution, Americans practiced the art of conquering new territory and established a new empire. The Ohio Valley has a history all its own worthy of our attention.

1 Walter Havighurst, River to the West: Three Centuries of the Ohio (New York: G. P. Putnam’s Sons, 1970), 210-17 (quote 213).


10 Dohan, *Mr. Roosevelt's Steamboat*, 57, 60, 63-77.


15 *Western Spy* (Cincinnati), Oct. 6, 1815; *Lexington Gazette* (Ky.), Sept. 16, 1815; *Louisville Correspondent*, Dec. 25, 1815.

16 *Western Spy* (Cincinnati), Mar. 29, Apr. 19, 1816; *Liberty Hall & Cincinnati Gazette*, Mar. 11, 18, 1816; *Western Courier* (Louisville), Dec. 14, 1815; and Hunter, *Steamboats on the Western Rivers*, 13-14.


19 *Liberty Hall & Cincinnati Gazette*, Oct. 16, 1815; *Western Spy*, Oct. 6, 1815, June 4, 1816.


“THE INVENTION OF THE STEAMBOAT WAS INTENDED FOR US”


25 Hunter, _Steamboats on Western Rivers_, 22-27; Wade, _Urban Frontier_, 191; Berry, _Western Prices_, 23-34.


28 Havighurst, _River to the West_, 211-12.
The typical steamboat that splashed the waters of the western rivers was an utterly forgettable rattletrap. *Eclipse*, however, was anything but typical, one of the largest boats ever built west of the Appalachian Mountains and perhaps the most impressive. One awestruck traveler even described it as one of three wonders of America. But despite its notoriety, historians know little about *Eclipse* because scant information on western boats survives. Steamboats were usually owned by a few individuals who tended to throw out or destroy pertinent business information like bills of lading, passenger lists, financial ledgers, and payroll sheets. For most steamboats, only the barest minimum of information survives: year of construction, tonnage, year of loss, and home port. Scattered travel accounts and newspaper stories shed light on a few boats, but their information remains limited. As a result, scholars who study riverboats have to piece together their stories from fragmented records and speak to steamboats in a general rather than a specific way. With those limitations in mind, this study uses *Eclipse* to discuss the larger issues surrounding the importance of riverboats in American history.¹
The most famous *Eclipse* (at least fourteen boats shared the name) took shape in 1852 in New Albany, Indiana, a busy antebellum steamboat construction site. The Louisville area, which also had shipyards across the Ohio River in New Albany and Jeffersonville, Indiana, built 704 steamboats between 1817 and 1860, or about 18 percent of riverboats used west of the Appalachian Mountains. Other major shipbuilding centers included Pittsburgh, Cincinnati, and St. Louis, though other river towns built a fair number of smaller vessels. No plans, drawings, or schematics of *Eclipse* survive, but it was a huge boat. At 1,117 tons, it stood about three times as large as the average boat prowling the western waters in the 1850s. *Eclipse* was three hundred fifty feet long and had a huge main deck. Most of this space was actually on the guards, the portions of the deck that stretched beyond the hull and normally did not touch the water. The boat's hog chains, which ran from the forward hull, up and over the upper decks, and back down to the stern, made it possible for *Eclipse* to have huge guards. Should the guards start sagging under the weight of added freight or passengers, deckhands tightened turnbuckles to prevent the boat from “hogging” or sagging at the extremities. Large guards like those found on *Eclipse* increased riverboat tonnage, which rose from an average of one hundred ten tons before 1820 to three hundred sixty tons in the decade of the 1850s.²

Like other steamboats of its day, *Eclipse* had a multi-tiered structure. The main deck contained the engine, the freight room, and was home to deck passengers and most of the cargo. The second level, built on the roof of the boiler room, was known as the boiler deck. It became the domain of cabin passengers who enjoyed conditions noticeably different from the main deck. The hurricane deck, named for its ever-present breeze, was the roof of the cabins and the location of
the ship’s signal bell and the repository of small cargo. One level up stood the texas, so named the story goes, because it was annexed to steamers, just as the United States added the Lone Star State in 1845. Shorter and narrower than the boiler deck, at most one-third the length of the vessel, it was home to the crew. The pilothouse rested on the highest deck of the steamboat, about fifty feet above the main deck, and had a commanding view of the river. It had windows on all four sides, and contained the huge wheel, a bench, and a stove. Just ahead of the pilothouse rose the chimneys, or stacks. Not only did the tall stacks add to the majestic appearance of the steamboat, but they served a practical purpose. High chimneys gave embers a better chance to burn out before floating into the air and possibly setting the boat on fire. Like other boats, Eclipse had fluting (a wire mesh) at the stop of the stacks to break the embers into smaller pieces. Also called Indian Feathers, the fluting became ornamental and gave rise to the expression “high falutin.” The whole, as Mark Twain supposedly remarked, looked like a wedding cake without the complications.3

Edward T. Sturgeon, a longtime Louisville riverman, had the Eclipse built and was its first owner. He had made his money running steamers and like most owners his boat operated from his home city. More unusual, Sturgeon was initially the boat’s sole owner, but later took on business partners, probably to defray expenses. Less than a quarter of steamboats on the western waters had a single proprietor. Most had two to five owners, while corporations owned a small number. Sturgeon’s motives in building the boat remain uncertain, but he probably wanted the fame associated with owning the largest steamboat in the United States. The boat’s hefty price tag—its three hundred seventy-five thousand dollar
cost more than doubled the average per measured ton during the 1850s—made it too expensive for most riverboat owners. Still, Americans like Sturgeon poured money into steamboat construction and made it a major business. Between 1811 and 1860 manufacturers built 3,874 steamboats valued at seven hundred fifty million dollars for the western waters.4

Steamboat owners, particularly those without business partners, commonly served as captain, as Sturgeon did on Eclipse. Captains visibly represented the steamboat and most of them had practical experience on the rivers or some type of mechanical background. They had responsibility for the day-to-day operation of the boat and almost nothing to do with the actual navigation. Captains decided when to leave, where to dock the boat, and served as the visible presence of management. They spent time in the pilothouse, mingled with passengers in the saloon, played cards, and inspected the cargo. A captain did not possess absolute authority, as he could not overrule the decisions of the pilot, but in all other matters his word was final. When Eclipse operated at its peak, Sturgeon employed 121 people, including two pilots, who were responsible for the actual direction of the steamboat once underway. Pilots normally rotated in four-hour shifts, in the hopes of keeping one of them alert, as they had the greatest responsibility and the most authority. Good pilots were hard to find, so owners and captains clamored to secure them with long-term agreements. Pilots specialized in one portion of a river but sometimes ventured into unknown waters because they possessed a general ability to interpret the signs of a river. Though common in early days, such practices became rarer once steamboats grew larger and more profitable because the risks did not balance the rewards.5

About twenty-five people comprised Eclipse's cabin crew, which was essentially a hotel staff transferred to a steamboat. Stewards purchased food for the boat, supervised the preparation and presentation of meals, made sure the cabin was clean, and sometimes planned activities for the passengers. Among the most visible of steamboat workers, they conveyed the captain's orders, enforced the rules of the boat, attended to the desires of the cabin passengers, and mollified angry or finicky customers. The stewards on Eclipse worked closely with the boat's five cooks, who prepared three meals a day for passengers and crew, a job that began at three in the morning.6

Once cooks finished preparing a meal, Eclipse's waiters, most of them white immigrants or enslaved men, brought it to the saloon. During meals they served food and drink to the guests, an exhausting chore that required them to constantly walk up and down the stairs to the kitchen. They set up the dining tables, complete with tablecloths and place settings, a job neither easy nor quick. An English traveler watched two “supple-limbed black boys” bring out a twenty foot long folding table and set it for dinner, put chairs in their places, and set up the cutlery, dishes, glasses, and napkins. The chore took an hour. The waiters then
served the guests, and after the meal bussed the dishes and removed the table and chairs. By the time the two waiters had completed a few other tasks, they had to bring out the table again. Their lot was typical. In between meals, waiters tended to the stoves that heated the cabin, brought out mattresses when the staterooms were overbooked, and cleaned the saloon, a task that might include scrubbing the floor. The continual work took its toll on the “sleepy waiters” and “heavy-lidded” slaves who caught sleep in small bursts.7

_Eclipse_ also had a number of chambermaids, usually the only women employed on a steamboat. They attended to the needs of the female passengers, but their most valuable duties were washing and cleaning. Chambermaids washed the linen from the dining tables and the bedding and towels from the staterooms. Sometimes they even cleaned the laundry of passengers and crew. They performed physical, ceaseless, and thankless labor. One female passenger observed how the chambermaid “had a great deal to do” but also chastised her for laziness. This privileged woman scarcely had an appreciation for the work involved. Chambermaids hauled water to the boiler deck and heated it before scrubbing the laundry. They then hung sheets, towels, tablecloths, and napkins out to dry in the ladies’ cabin or on the verandah. Once the laundry had dried, the chambermaids ironed it. They had to reheat irons continually on a stove, rendering the task neither simple nor effortless. Eliza Steele, traveling on the steamboat _Monsoon_, complained that the enslaved chambermaid made the ladies’ cabin too hot with her ironing. The chambermaid was probably even more uncomfortable, something unfathomable to Steele.8

As visible representatives of the steamboats, cabin crews were expected to present a pleasing appearance. Stewards and waiters on _Eclipse_ wore clean white shirts while the chambermaids donned long cotton dresses, aprons, and put headbands or ribbons in their hair. Men and women had to keep reasonably clean and comb their hair. That most cabin crew workers were black only reinforced white assumptions that God created African Americans for servile labor. The cabin crew also had to develop an attitude of service and attention to detail. Many withered under the impossible demands of multiple passengers but others developed important negotiation skills. Enslaved waiters, for instance, learned how to navigate their way through white society—a useful skill they might employ in escape attempts. They eavesdropped on dinner conversations, learning how to behave as white passengers did. Waiters especially could imbibe stories, names, and information that they could put to good use during a run to freedom. In a real sense, steamboat saloons functioned as etiquette schools for perceptive slaves who desired to earn more than just money.9

Most of a steamboat’s workers toiled on the main deck, with the only skilled workers on this level in the engine room. _Eclipse_ employed five engineers responsible for keeping the machinery in good working order, maintaining power to
the engines, and translating the pilot’s orders concerning speed and movement into action. Their difficult job often drove them into a blasphemous rage. A system of bells connected the engine room to the pilothouse and the rapid succession of signals to stop, back up, or move ahead slowly could be maddening. Broken shafts, cracked pipes, and mangled paddlewheels created emergencies that demanded attention. An engineer needed to be a jack-of-all-trades in order to fix the multitude of problems that bedeviled steamboats. He drew good wages (he might earn as much as the captain), but the hot, stuffy, greasy, and noisy conditions often magnified an engineer’s frustrations.\footnote{10}

Firemen, who had the most physically demanding job on a steamboat, worked for the engineer. If Eclipse followed the typical practices of the boats that operated below Louisville, then its firemen were rented slaves. Frederika Bremer’s first glimpse of firemen captivated her. The large steamer on which she rode had eight open furnaces and beside each one “stood a negro naked to his middle, who flung in firewood. Pieces of wood were passed onward to these feeders by other negroes, who stood up aloft on a large open place between them and a negro, who, standing on a loft stack of firewood, threw down with vigorous arms food for the monsters on deck.” The slave on the woodpile sang out a stanza and the other firemen echoed a chorus, all in perfect time to their movements. The whole scene “was so accordant and well arranged, that it would have produced a fine effect upon any theater anywhere.” Firemen also stoked the fires with long rods. The intense heat and constant motion was so arduous that they worked in four-hour shifts and usually refused to work for more than two successive voyages. Not only did firemen throw wood into furnaces, they helped load it on steamers. A recent German immigrant recalled his stint as a fireman as the hardest work he had ever done, and the most dangerous. Darkness, slippery riverbanks, and a tottering gangplank made a plunge into murky waters a common occurrence.\footnote{11}

Eclipse employed three mates, who served as the other supervisors on the main deck. They needed no special navigation or engineering skills, but typically directed the deckhands and roustabouts. Most seem to have worked as members of the deck crew before being entrusted with a supervisory role. As the people primarily responsible for converting the captain’s wishes into work for the deck crew, mates could be, as a long-time riverman remembered, “about the meanest set of people on earth.” They needed a distinct physical presence and routinely used beatings to enforce discipline, increase the pace of work, or punish someone for sloppy work habits. Newspaper stories abounded with mates thrashing deckhands with clubs, hammers, knives, heavy hickory canes, or whatever handy object. Mates also earned a legendary reputation for their extensive and imaginative use of profane language.\footnote{12}

The deck was also the home of roustabouts and deckhands, unskilled laborers who often moved from boat to boat. Eclipse employed seventy firemen, roustabouts, and deckhands in unknown proportions. Roustabouts, strong men who
hauled freight on and off steamers, were the most visible workers on this level. *Eclipse*‘s roustabouts were almost certainly free blacks or slaves. Besides moving cotton bales, carrying boxes, and rolling hogsheads of sugar, roustabouts coaxed mules, horses, oxen, cows, sheep, turkey, geese, and ducks on and off boats. The rough appearance of roustabouts matched the difficulty of their lives. The “variety of rags” that clad them were usually dirty, old, torn, and often second-hand. Some wore flannel shirts and coarse trousers while others had coats and vests but no shirts. Nails and edges tore up pants while sacks and crates rubbed holes in shirts and jackets. “The roustabouts looked all of one hue, from their shoes to the tops of their heads,” wrote a visitor from the South. “Their coffee-colored necks and faces match their reddish-brown clothes, that had been grimed with the dust of everything known to man—which dust also covered their shoes and bare feet, and made both appear the same.” The elements took their toll on the clothing and constitution of roustabouts who worked outside in all kinds of weather.\(^\text{13}\)

Deckhands, usually German or Irish immigrants, also worked on *Eclipse*. They took cargo from the roustabouts and stowed it on the deck or in the hold. Like roustabouts, they worked under the direct supervision of a mate. A deckhand’s work was “the hardest in the world,” according to one laborer. Deckhands formed bucket brigade lines to pass freight to one another, moving so quickly and rhythmically it looked as if the cargo “burned their fingers.” Like roustabouts, they remained on call at all hours of the day and caught short naps while the boat traveled. Other chores included cleaning the deck, pumping water out of the hold, measuring the depth of the river for the pilot, taking turns as night watchmen, and cleaning animal waste off the deck. Deckhands found this last task especially disagreeable, and it became so odious that they complained about the “hogwash” that offended their nostrils. This colloquialism, which now means something ridiculous or unbelievable, originally referred to this noxious chore.\(^\text{14}\)
Besides the crew, Eclipse’s main deck also carried a number of passengers. How many deck passengers or “deckers” the vessel carried on a normal voyage is unknown, but given Eclipse’s huge size it most certainly numbered several hundred. They bought the least expensive ticket, which entitled them to a bit of shared space on the boat’s main deck and made them, essentially, equivalent to freight. If Eclipse charged the normal fare, then a deck passenger traveling from Louisville to New Orleans would have paid three dollars or about seventy dollars today. Particularly cost-conscious passengers decreased this price even more by agreeing to haul wood on board. Decker normally carried logs in empty salt sacks and stripped to the waist in hot weather during wooding, the process of loading wood onto a steamboat. Such stops took anywhere from thirty minutes to several hours. Rainy conditions lengthened the process and increased the misery when drenched clothes stuck to bodies and deckers slipped in the mud and tumbled down embankments.

Decker, whenever possible, staked their claim to a small part of Eclipse’s freight room. Experienced passengers (boatmen in particular) hung hammocks in a crazy-quilt pattern. Besides cargo and domesticated animals, this dark, cheerless room normally had a few dim lanterns, several lice-ridden bunks bolted to one wall, and a long sheet iron stove. Tobacco juice and animal excrement stained the “smeary dirty deck.” Most occupants thought the room looked more like a stable than proper sleeping quarters. Since their passage did not include food, deckers prepared their own meals, and those with some measure of foresight brought bacon, bread, crackers, boiled ham, or cake with them. Animal waste, human body odor, food, and freight mingled together and created a “peculiar odor” that caused the room to smell like a combination of a stable, a poorly ventilated locker room, and a kitchen.

Cabin passengers traveled literally and figuratively above deck passengers, and spent most of their time on the boiler deck. The large room on this level, called the saloon or main cabin, was a public space that also doubled as the dining room. Eclipse’s saloon extended one hundred ten yards in length but only about twenty yards in width. One hundred forty staterooms lined the saloon and if similar to those on other boats were six feet by six feet, had two doors (one that opened to the saloon and the other to the promenade deck), two berths fastened to a wall, and a mirror. Eclipse probably charged more than the typical price of fifteen dollars to travel from New Orleans to Louisville, a cost of perhaps four hundred dollars today. With prices so reasonable, one traveler was astonished to learn that his passage from
New Orleans to Cincinnati included food. At the cost of one dollar per day, he concluded that riverboat travel was “literally cheaper than staying at home.” This passenger exaggerated the fiscal benefits of steamboat travel, but he correctly noted that America’s emerging middle class could afford to travel on a normal boat.  

The saloon served as the primary location for social interaction on the boiler deck and activities there varied immensely. Anton Reiff passed a pleasant evening listening to singing, while other passengers danced, talked politics, played cards, and swapped stories. On another boat, earnest conversation turned to “steam-boats, liquors, black-land, red-land, bottom-land, timber-land, warrants and locations, sugar, cotton, corn, and negroes,” observed Frederick Law Olmsted. Introspective passengers read newspapers and books or wrote letters (if the boat did not shake too badly). Drinking was so common that one visitor tut-tutted that “whiskey is used just as freely as water. All [passengers] drink.” Gambling, of course, was another common activity with poker and three-card monte being the favored games. Astonished Europeans added the chewing and spitting of tobacco to the list of ubiquitous and iniquitous steamboat activities. It was “incessant,” wrote one English tourist who saw Americans coat the carpet with expectorations when they did not spit in the cabin’s stove. Bored passengers even shot deer, bears, turkeys, geese, and alligators. If a clergyman or a particularly pious passenger traveled on board, he could organize church services on Sunday mornings and even though some boats prohibited gambling on Sundays, usually the Sabbath was merely another day of traveling.  

Daniel Chapman Banks Diary, entry for May 21, 1822.
Along with *J. M. White*, *Peytona*, *Sultana*, *Harry of the West*, and *Princess*, *Eclipse* enjoyed the reputation of “best boat.” Like those other steamers, *Eclipse* used the opulence of its grand saloon to attract attention and customers. It sensibly balanced political sympathies by placing statues of Andrew Jackson and Henry Clay on opposite ends of the saloon, and featured elaborate frescoes of diamonds, acorns, and oak leaves painted on the walls and ceilings. Intricate scrollwork adorned the doors, transoms, and ledges of these best boats. An English tourist ranked *Eclipse* equal to Niagara Falls and the New Orleans levee as one of three wonders of the United States. Like other fine boats, it charged higher ticket prices. But cabin passengers willingly paid increased fare to marvel at the brightness of gas lights, admire gilded columns, turn crystal doorknobs, tread on plush Brussels carpeting, sit in mahogany chairs, listen to grand pianos beneath sparkling chandeliers, and study the heavens through etched glass skylights. These finer touches provided a stunning appearance and the opulent excess gave rise to the style known as steamboat gothic. One visitor even commented on the “beautifully decorated” public restrooms on his steamer. Their first view of the interior of the best saloons overwhelmed most visitors. “The view is really gorgeous!” was the only thing one dumbfounded New Yorker could think to write.

*Eclipse*, like the other best boats, provided a sumptuous dining experience. Slave waiters “were perfectly trained to their duties” and their easy air made meals agreeable. Women first found a place at the table and then men followed once the steward rang a bell. Guests could always drink coffee or tea, and sometimes wine from crystal tumblers. Opaque river water waited in glasses, and guests usually let the sediment settle lest they drink mud and prove the old river adage that the person who drank water on a steamboat would soon grow corn in his stomach. Stewards brought fine china laden with food that ranged from the mundane (biscuits and crackers) to the esoteric (alligator steak and oysters), but was usually of great variety and fresh. Although no one specifically commented on *Eclipse*’s food, guests on the best boats raved about their meals. “I have never lived better in a hotel than I have here. We have a great variety of dishes, and well cooked,” gushed Edward Russell.

Captain Sturgeon understood that travel represented more than simple movement from one point to another. Most travelers sought an experience. Sturgeon wanted *Eclipse* to be a four star, mobile hotel. One satisfied traveler on a best boat looked back on his trip and concluded with satisfaction that nothing could compare with a steamboat for “comfort and pleasure.” And since Americans equated comfort with social progress, riverboats stood as an exemplar of human advancement. Passengers on the best boats imagined they stayed in a palace or played a part in a fairy tale. Indeed, the phrase “floating palace” filtered into writing so frequently that it became a cliché. In the South, a region of the country where white residents made self-conscious parallels to medieval Europe, the comparison to a palace had
special resonance. European carpeting, paintings, and furniture (even if replicas) provided access to a world that most travelers had visited only in books. The marble-topped tables, intricate scrollwork, statues, frescoes, and gilded surfaces transported passengers to a world where they became lords and ladies. The best boats catered to elite expectations by allowing middle class passengers to purchase noble status, if only for a short time. Even European tourists felt the charms of riverboats. Lady Emmeline Stuart Wortley, daughter of the Fifth Duke of Rutland, described *Autocrat* as an “enchanted castle” that seemed to float on the clouds. On the best boats passengers could imagine themselves in a better life—if even just for the duration of the voyage—in which they enjoyed wealth, power, and had few worries.\(^{21}\)

*Eclipse* earned fame for its speed as well as its saloon. Sturgeon knew that fast boats made headlines and attracted passengers who believed they would have to spend less time in transit between towns. Discussions of times, speed records, and steamboat races filled the newspaper columns, levees, counting houses, barbershops, and taverns. Word of mouth often became a boat’s best form of advertisement. Speed became an obsession and the boat with the fastest time on the river between two cities “held the horns” until a rival could knock the champion off its pedestal. Antlers became the trophy for the fastest boat, perhaps through the association of deer with speed or through the ancient connection between horns and prowess. In its pilothouse, the captain of *A. L. Shotwell* proudly displayed a large set of gilded deer horns from which a silver plate suspended by pink ribbons warned rivals to “Take us if you can.” A boat had to surrender such ornamental traveling trophies if a rival did set a speed record.\(^{22}\)
To hold the horns a boat had to win a race, and most contests became impromptu tests of masculine pride when a boat threatened to pass a rival. These pell-mell sprints took place over short distances, normally to a specific wood yard or town. In most cases, captains did not forsake business during contests, so racing boats stopped to load or unload both passengers and freight. They also stopped to take on wood, although particularly savvy captains reduced the number of scheduled stops and took wood from flatboats rather than shoreline wood yards. The few premeditated races that occurred between boats attracted coverage in the press and wagers in the saloons. Most of them turned into long distance stop and go endurance contests that lasted up to four days. Judging by the amount of money wagered on them, steamboat races were important cultural events.

Races absorbed the efforts of the crew, excited the passions of the passengers, and attracted the attention of residents along the rivers. The “excitement produced by it [racing] is the most powerful that can be conceived,” wrote one electrified participant. Passengers flocked to the boilers and cheered, whistled, shouted, and sometimes chanted to keep up the spirits of the firemen, whose checkered shirts became drenched with perspiration. In a particularly close contest, the deck passengers might crowd the front of the boat in the hopes of giving it a competitive advantage by reducing the drag in the water. Roustabouts rolled barrels of oil, turpentine, or tar to the massive furnaces, broke them open, and flung the incendiary material into the roaring inferno. Other passengers rushed to the rails to catch a glimpse of the rival boat, which was sometimes so close that people could have jumped aboard. Steamers sometimes even bumped into one another or became locked together. When one boat pulled alongside its rival, “The cries and noise with us then became indescribable. Captain, officers, crew, servants, passengers, firemen—all were gathered on our guards, insulting by voice and gestures” the people on the other boat. With these shouts added to the hissing valves, pounding pistons, and thunderous paddlewheels, the whole scene proved deafening and the atmosphere intoxicating. Close races gripped the attention of residents along the rivers, and a buzz of excitement swept through a town when two closely matched boats sped past. People left work and lined the riverbank to cheer and perhaps catch a glimpse of an explosion.

_Eclipse_ took part in the most famous steamboat race before the Civil War. When word spread of the impending contest with _A. L. Shotwell_, residents along the Mississippi and Ohio Rivers supposedly bet anywhere from eight to forty thousand dollars. Speculation on who would win became so intense that Mark Twain later joked the captain of _Eclipse_ “left off his kid gloves and had his head shaved.” _Eclipse_ left New Orleans on May 14, 1853, and when _A. L. Shotwell_ left three days later, their competition became the all-absorbing passion of river residents. Crowds in New Orleans, Natchez, Vicksburg, Memphis, and Louisville cheered, sang songs, threw hats in the air, waved handkerchiefs, and occasionally
fired cannons when either of the boats passed. Telegraph lines flashed between
cities with news of the boats’ times. According to a New Orleans newspaper, the
race was “the engrossing topic of conversation in all parts of the city. At break-
fast time, dinner table, and tea table, it was the absorbing subject of discourse.”

Deciding what boat won the race and who would collect on their bets, how-
ever, became a problem because the boats did not leave simultaneously and stan-
dard time did not exist in the United States. When it arrived in Louisville, A. L.
Shotwell claimed it had covered the 1,455 miles in four days, nine hours, and
twenty-nine minutes, improbably one minute ahead of its rival. That one minute
difference later became five, but in either case people failed to reach a consensus as
to who had won the race. The dispute played out in the newspapers, in a contest
that pitted personal honor, evidence, and reputation. The owners of A. L. Shotwell
argued that an impersonal force, in this case a watch, should decide the winner.
They clearly viewed a watch as an impartial recorder that could reconcile the fact
that the boats left at different times. The owners of Eclipse argued that the tech-
nology was inaccurate; the “slower the watch, the faster the boat” they responded.
They accused their rivals of falsifying time, a public lie that independent witnesses
could confirm. This public challenge was equivalent to asking for a duel, where
one party pointed out the difference between the truth and a public persona.

While a duel never took place, Eclipse’s owners wanted both sides to nomi-
nate referees who could decide the matter. In other words, a man’s word should
have more value than an impersonal piece of technology. When the owners of
A. L. Shotwell recommended that bettors on their boat select the referees, the
owners of Eclipse exploded in anger. They argued that “honorable men” could
plainly see that a “great wrong” had taken place and accused their opponents of
wanting to perpetuate a lie. After the owners of A. L. Shotwell refused to submit
to an independent arbiter, Sturgeon gathered his own witnesses and published
their accounts in the newspapers. The owners of A. L. Shotwell followed suit but
eventually the issue faded away and most bettors agreed that no money should
change hands. In an elaborate ceremony in Louisville, A. L. Shotwell received
the horns from the captain of J. M. White and held them until the famous race
between Natchez and Robert E. Lee in 1870. Though the winner of the 1853 con-
test remains unknown, the story of the race shows how steamboat racing married
personal reputation, competition, and a mania for speed into a potent combina-
tion that captured the public’s imagination.

During Eclipse’s race with A. L. Shotwell most passengers did not notice the
amount of wood that the firemen flung into the furnaces. Even when not rac-
ing, the boat’s sixteen boilers needed massive fires to keep them hot enough to
power the machinery. Eclipse probably burned about twenty thousand cords of
wood per year that came from thirteen thousand trees, sizeable figures but barely
noticeable considering the enormous assault taking place on the trees along the
banks of the western rivers. Between 1811 and 1860, western riverboats burned an estimated fifty-seven million cords of wood from about thirty-eight million trees. Put another way, western steamboats burned up one thousand acres worth of trees, an expanse two-thirds the size of Rhode Island.\(^{28}\)

The number of trees burned in the furnaces of steamboats like *Eclipse* represented just a portion of the industry’s wood consumption. The boats themselves were constructed primarily of wood, the foundries that cast the engines burned wood, and as steamboats added value to forested lands more migrants moved in and cleared trees. Travelers along the western rivers in the early days of riverboats could not help but notice the wooded banks. As one Mississippi River traveler wrote in 1835, “The background wood, wood, wood!” But even in that decade the backdrop to river travel changed. As early as 1830 a Virginian visiting southwestern Tennessee commented on how the land was “very much pillaged by the Steam Boats.” Nine years later, after traveling from Cincinnati to Louisville, a writer in the *Southern Literary Messenger* was appalled at the “nakedness of the banks” that came at the expense of increased riverboat traffic. By the time of the Civil War, the “steamboats and locomotives” had “burnt off the forests” around Memphis, wrote another steamboat traveler. The image of vast stretches of stumps scarring the land anticipates the sight of deserted buffalo carcasses littering the prairie or strip mines gouging the earth.\(^{29}\)

Apparently, few Americans perceived the heavy demand placed on forests as a problem. D. J. Browne was among a handful who pointed out that the increased consumption of wood created environmental troubles. Writing two decades before *Eclipse*’s maiden voyage, he worried that even though steamboats used so much wood, “no one ever seems to feel that our forests are not inexhaustible.” Westerners seem not to have heeded Browne’s pleas; instead of wringing their hands over the effect of deforestation, they rejoiced that steamboats took something that was “not only useless, but an obstacle” and “with something like magical influence, has turned them into objects of rapidly increasing value.” Sales of wood to steamboats became an important business and woodyards popped up along the riverbanks. Trees got in the way of agricultural development and would have to be removed for farms, towns, and cities. Steamers merely made their eradication more profitable. The impact of *Eclipse* and other western boats on the commodification of wood reflected the broader economic significance of steamboats in ante-bellum America. With captains paying anywhere from one to five dollars per cord (with two to three dollars the norm), western steamers bought nearly $129 million worth of fuel in the five decades before the Civil War, making wood sales a silent but important business along the major rivers. Riverboats also served as a major employer, even if many of the workers were enslaved Americans. *Eclipse*’s monthly payroll normally amounted to about forty-six hundred dollars, and between 1811 and 1860, riverboats on the western waters paid out an estimated $1.6 billion to almost three hundred six thousand employees.\(^{30}\)
Other westerners capitalized on the fact that riverboats constantly needed refitting and supplies. The owner of a shipyard in New Orleans testified that it took more time to refit a boat than it did to build a new one. He employed thirty-five to forty people to tear out rotted wood, apply new caulk, and paint boats so they could attain the best insurance rating. In Louisville, workers in the Jefferson Foundry grated water wheel flanges, repaired bolts, patched boilers, and replaced the force pump arms. Riverboats also consumed massive amounts of supplies and constantly bought material from grocers, small producers, and planters. The firm of Buckner and Hughs in Louisville, for example, sold buckets, sperm oil, charcoal, soap, butter, potatoes, mackerel, corn meal, pickles, mustard, rice, cheese, knives, forks, brown sugar, almonds, brooms, rope, dried beef tongues, and many other items to steamers. Between 1811 and 1860, steamers on the western waters spent perhaps five hundred twenty-five million dollars on supplies and another twenty-nine million dollars on repairs, refitting, and replenishing, money that brought tangible economic benefits to towns, small landowners, and planters.31

In the five decades prior to the Civil War, the steamboat industry generated staggering economic numbers. Steamboats paid out a remarkable $2.3 trillion on wages, wood, repairs, and stores along the western waters. Riverboats proved a significant boost for the western economy and an important American business. They created new commercial exchanges, animated economic life along the rivers, and helped integrate people living west of the Appalachian Mountains into the market economy. Steamboats created markets, accelerated the pace and quantity

Jefferson Foundry Steam Engine Manufactory Ledger, August 1837.
THE FILSON HISTORICAL SOCIETY
of cash and credit transactions, and gave southerners the opportunity to diversify their economic practices. Steamboats acted as floating engines of capitalism, creating commercial exchanges where none had existed just a few years earlier.32

Eclipse’s home port of Louisville offers an instructive example. Since most riverboats had to stop above or below the Falls of the Ohio, the break in river traffic served as a steady means of employment for countless draymen, freight handlers, warehouse owners, and wagon drivers. As early as 1828, according to the Western Monthly Review, nearly two hundred steamboats serviced the city and provided one of its primary sources of wealth. Even after completion of a canal around the Falls in 1835, the area was “lined with hacks, omnibuses, wagons, drays and all kinds of vehicles, hauling passengers and freight to and from the boats arriving and departing.” The waterfront teemed with activity. “Stores, barrooms, lodging-houses and groceries lined the river front,” remembered one visitor, “and, what with steamboaters, flat-boatmen, passengers, teamsters and stragglers, the entire wharf front was a daily scene of business life and activity.” Louisville tavern owner and hack driver Jim Porter, also known as the Kentucky Giant, became an object of curiosity for travelers. The seven foot eight inch tall Porter kept an eight-foot long rifle behind the counter of his store. Visitors to Louisville gawked at Porter and had their friends stand next to him. When Charles Dickens saw Porter walking down the busy Louisville wharf, he said the man looked like “a lighthouse walking among lamp-posts.” But if the Kentucky Giant offered a short-lived curiosity, the dependence of the antebellum Louisville economy on steamboats proved more enduring, largely because the Falls forced most steamboats to stop in the
Louisville area. Still, other river towns, including Cincinnati, Memphis, St. Louis, Natchez, New Orleans, and Mobile, benefited greatly from steam navigation.33

_Eclipse_ carried all sorts of freight, but like most other boats that traded below Louisville it made tremendous amounts of money carrying cotton to New Orleans. On one of its final trips, the boat brought a large load of the staple to the Crescent City, where there already sat “considerable cotton on the levee.” Wide guards like those of _Eclipse_ offered a perfect place to stack cotton and it became common to see thousands of bales heaped on steamers. Before the Civil War, the famous _Sultana_ normally carried thirty-five hundred bales, while in 1837 _John Randolph_ once hauled five thousand. Captains constantly pressed their crews to load more and more cotton and bragged when they outdid a rival. Hog chains notwithstanding, guards commonly dipped so low that river water rippled against the lowest bales. Boats hauling massive amounts of cotton were an impressive sight. Tyrone Power “saw one monster come groaning down the stream, looking like a huge cotton-bale on fire. Not a portion of the vessel remained above the water, that could be seen, excepting the ends of the chimneys: the hull and all else was hidden by the cotton-bags, piled on each other, tier over tier, like bricks.” So much cotton crowded the deck that only a small alleyway allowed passengers to move about. Bales commonly blocked the windows and doors on the boiler deck so completely they prevented sunlight from reaching the cabins and forced passengers to burn lights day and night.34

Steamboats filled their decks with cotton produced by thousands of the South’s cotton planters and farmers. At a cost of one or two dollars, a farmer could send a cotton bale to New Orleans or Mobile where factors or cotton brokers handled all
other arrangements at a reasonable cost, particularly during strong cotton markets. James Jordan, for instance, sent ninety-one bales of cotton to Mobile where Rives, Battle, and Company arranged for its sale. The 45,220 pounds of cotton grossed $2,826.25. After deducting $264.52 for freight, drayage, wharfage, weighing, storage, fire insurance, and the commission, Jordan still made a handsome profit.35

Even though cotton was king, trade of all types grew as the number of steamers increased. In 1814, twenty-one riverboats brought 67,500 tons of freight to the Crescent City. A decade later, 436 steamers hauled 129,500 tons of cargo. Those figures rose to 1,958 and 542,500 by 1841. According to a federal government report, between 1830 and 1840 New Orleans enjoyed the fastest growth of any American city, rising to fourth in population. More impressively, its port had become the third busiest in the world. Scholars have difficulty determining how much steamboats contributed to the economic development of New Orleans. Writing in 1885, however, the chief of the United States Bureau of Statistics was convinced that steamboats caused a “large increase” in the Crescent City’s river trade. Clearly, a lack of riverboats would have stunted New Orleans’s growth.36

While Eclipse continued to carry passengers and cargo between Louisville and New Orleans in the 1850s, it had an increasingly difficult time generating profits. As east-west rail and canal networks spread north of the Ohio River, produce that steamboats previously carried to New Orleans went eastward. After 1840 traffic from the Ohio to the Mississippi declined; Midwestern corn, wheat, and flour previously marketed through New Orleans now found its way to Chicago or other northern cities. In the twenty years before 1860, the value of Midwestern products arriving in New Orleans dropped from 58 to 23 percent of total receipts while upriver freight to the Midwest also suffered a decline. As river trade started seeping away from southern cities, their residents looked to railroads to staunch the flow. Lines in the Old Southwest shot up to 16 percent of the national total (4,889 of 30,626 miles) by the time South Carolina seceded. The most astounding growth took place in Tennessee, which went from nine miles of track in 1850 to 1,253 miles ten years later. Rail lines now competed with rivers and had the potential to begin a commercial revolution in the Southwest. When completed in January 1860, the Great Northern ran between New Orleans and Memphis and provided an alternative to steamboat traffic. Likewise, workers began laying rails on the north side of Mobile in 1852 and nine years later the city was connected with Columbus, Kentucky, on the Ohio River. The Louisville and Nashville Railroad also provided direct competition with river traffic. Coupled with a railroad running northeastward out of Memphis, the L&N allowed shippers to bypass the Ohio River entirely.37

The famous boat would not last to see railroads eclipse steamboat traffic after the American Civil War. On February 21, 1860 a storm in New Orleans blew Eclipse into the middle of the Mississippi River. As the captain and crew struggled to regain control, the boat crashed into another vessel. With damage too extensive
for repairs, the owners auctioned off the boat's furnishings and sold the hull to a
Memphis resident who converted it into a wharfboat. It was an inglorious end for
one of the best and most remembered steamboats in American history.38


6 Edmund Flagg, Flagg’s the Far West, 1836-1837 (Cleveland, Oh.: A. H. Clark, 1906), 52; Hunter, Steamboats on the Western Rivers, 446; Buchanan, Black Life on the Mississippi, 66-67.


9 “Smoke and Sparks,” Natchez Daily Courier, June 26, 1855, Somdal Papers, Noel Memorial Library, Louisiana State University, Shreveport (hereafter NML-LSU); Buchanan, Black Life on the Mississippi, 62.

10 McDermott, Before Mark Twain, 264; Hunter, Steamboats on the Western Rivers, 259-63.

A HISTORY OF THE STEAMBOAT ECLIPSE

Durham, N.C.: Duke University Press, 1968), 95-97; Buchan,
Black Life on the Mississippi, 71.

12 T. C. Collins, Adventures of T. C. Collins—Boatman:
Twenty-Four Years on Western Waters, 1849-1873, Herbert
L. Roush, comp. and ed. (Baltimore: Gateway Press,
1985), 56; Hunter, Steamboats on the Western Rivers,
456-58.

13 George W. Featherstonhaugh, Excursion through the
Slave States from Washington on the Potomac to the
Frontier of Mexico, with Sketches of Popular Manners and
Geological Notices (1844; New York: Negro Universities
Press, 1968), 144; John Habermehl, Life on the Western
Rivers (Pittsburgh, Pa.: McNary and Simpson, 1901), 8;
Stoughton Cooley, “The Mississippi Roustabout,” The
New England Magazine 17 (Nov. 1894), 290; Buchanan,
Black Life on the Mississippi, 70, 73-75; Julian Ralph,
Dixie, or Southern Scenes and Sketches (New York: Harper
and Brothers, 1896), 3-4.

Boatman (1849-1851),” Gateway Heritage 5 (Fall 1984),
40; Samuel Wigglesworth to Thomas Wigglesworth, July
17, 1839, Wigglesworth Letters, The Filson Historical
Society, Louisville (hereafter FHS); Buchanan,
Black Life on the Mississippi, 72-73; Hay, “Language of the River.”

15 Undated Wheeling Gazette, quoted in Hall, The West,
147; Amos Andrew Parker, Trip to the West and Texas
(1835; New York: Arno Press, 1973), 86; McDermott,
Before Mark Twain, 80; Edward King, “The Great South:
A Record of Journeys in Louisiana, Texas, and Indian
Territory, Missouri, Arkansas, Mississippi, Alabama,
Georgia, Florida, South Carolina, North Carolina,
Kentucky, Tennessee, Virginia, West Virginia, and
Maryland (Hartford: American Publishing Company,
1875), 68; James Edward Alexander, Transatlantic
Sketches, Comprising Visits to the Most Interesting Scenes in
North and South America, and the West Indies, with Notes on
Negro Slavery and Canadian Emigration (Philadelphia:
Key and Biddle, 1833), 243; Hunter, Steamboats on the
Western Rivers, 264-65, 421-22; Buchanan, Black Life on the
Mississippi, 70-71; Haites, Mak, and Walton, 162;
Allen, “Reminiscences of a Common Boatman,” 40;

16 Habermehl, Life on the Western Rivers, 55; McDermott,
Before Mark Twain, 84; Hunter, Steamboats on the Western
Rivers, 419-44; Haites, Mak, and Walton, Western River
Transportation, 163.

17 Davies, American Scenes, 81; Way, Way’s Packet Directory,
138-39; Hunter, Steamboats on the Western Rivers,
394-96; Vesuvius and Aetna Broadside, Corliss-Respess
Papers, FHS; Haites, Mak, and Walton, Western River
Transportation, 31-32; “MeasuringWorth.”

18 Anton Reiff Journal, Jan. 9, 20, 1857, NML-LSU;
Olmsted, Journey to the Seaboard Slave States, 616; John
A. Clark, Gleanings by the Way (Philadelphia: W. J. and
J. K. Simon, 1842), 83; Patrick Shirreff, A Tour through
North America, Together with a Comprehensive View of the
Canadas and United States, as Adapted for Agricultural
Emigration (Edinburgh: Oliver and Boyd, 1835), 268;
Daniel Chapman Banks Papers, May 21, 1822 entry,
FHS; Ford Journal, Apr. 15, 1849, Historical Arkansas
Museum, Little Rock, Arkansas (hereafter HAM);
1858), 601.

19 Paul Wilhelm, Duke of Württemberg, Travels in North
America, 1822-1824, W. Robert Nitske, trans., Savoie
Lottinville, ed. (Norman: University of Oklahoma
Press, 1973), 86; Charles Peter Grizzard, “A Glimpse
of the South in the Spring of 1855,” Beinecke Rare
Book and Manuscript Library, Yale University, New
Haven, Ct.; Charles Lamman, Adventures in the Wilds of
the United States and British American Provinces, 2 vols.
(Philadelphia: J. W. Moore, 1856), 1:207; George Wolfe
Bruce to Mother, Feb. 5, 1854 and Feb. 6, 11, 1826
entries, Mississippi River Travel Diary, 1825-26, both in
George Wolfe Bruce Papers, Rare Book, Manuscript, and
Special Collections Library, Duke University, Durham,
N.C.; Joseph H. Ingraham, The Sunny South; or The
Southerner at Home, Embracing Five Years’ Experience of
a Northern Governess in the Land of the Sugar and the
Cotton (1860; New York: Negro Universities Press,
1968), 237-39; James S. Buckingham, The Slaves States of
1:396-97; Henry Arthur Bright, Happy Country this
America: The Travel Diary of Henry Arthur Bright, Ann
Henry Ehrenpreis, ed. (Columbus: Ohio State University
Press, 1978), 253; Nichols, Forty Years of American
Life, 2:5-6; George H. Yater, Two Hundred Years at the
Falls of the Ohio: A History of Louisville and Jefferson
County (Louisville: Heritage Corp., 1979), 61; Hunter,
Steamboats on the Western Rivers, 395-97; Frederick Way
Jr., She Takes the Horns: Steamboat Racing on the Western

20 Nichols, Forty Years of American Life, 1:244; Edward
Russell Journal, Feb. 5, 1835, Historic New Orleans
Collection, New Orleans, La. (last quote); Bill of
Fare, Steamboat Missouri, Jan. 10, 1847, Missouri
Historical Society, St. Louis; Arthur Augustus Thurlow
Cunynghame, A Glimpse at the Great Western Republic
(London: R. Bentlely, 1851), 185; James Stuart, Three
Years in North America, 2 vols. (Edinburgh: R. Cadell,
1833), 2:277; Thomas Hamilton, Men and Manners
in America (Philadelphia: Carey, Lea, and Blanchard,
1833), 295.

21 Philip Paxton [S. A. Hammett], Stray Yankee in Texas
(New York: Redfield, 1859), 404; Worley, Travels,
114-15; Ebenezer Davies, American Scenes and Christian
“Out in Louisville. Most of the fracases concerned who
Great Race Between the “Natchez” and the “Robert E. Lee”
Manly Wade Wellman, Honor and Slavery
in the Seaboard Slave States
Way-Side Glimpses, North and South
McDermott, Before Mark Twain, xviii.
untitled Louisville Register, as quoted in Daily National

Frederick Marryat, Second Series of a Diary in America, with Remarks on In Institutions

Twain, Life on the Mississippi

William Fairfax Gray, The Diary of William Fairfax Gray, from Virginia to Texas, 1835-1837

William Williams, Transforming New Orleans and Its Environs: Centuries of Change

Ari Kelman, “Forests and Other River Perils,” in

The Invention of Comfort: Sensibilities and Design in Early Modern Britain and Early America

Slavery: A Recent Tour of Four Thousand Miles in the United States


22 Louisville Daily Democrat, June 7, 1853; Way, She Takes the Horns, 39, 51, 76.

23 Undated Peoria Register, as quoted in Daily National Intelligencer, June 2, 1837; Aleksandr Borisovich Lakier, A Russian Looks at America: The Journey of Aleksandr Borisovich Lakier in 1857; Arnold Schrier and Joyce Story, trans. and eds. (Chicago: University of Chicago Press, 1979), 141; Louisville Daily Democrat, Apr. 27, 1853; Hunter, Steamboats on the Western Rivers, 405-408.

24 Frederick Marryat, Second Series of a Diary in America, with Remarks on In Institutions (Philadelphia: T. K. and P. G. Collins, 1840), 20; Marie Fontenay de Grandfort, Before Mark Twain, 103.


27 Louisville Daily Democrat, May 23, 1853; Greenberg, Honor and Slavery, 24-46; Way, She Takes the Horns, 43-49; Manly Wade Wellman, Fastest on the River: The Great Race Between the “Natchez” and the “Robert E. Lee” (New York: Holt, 1957). The dispute over which boat won the race became so contentious that fistfights broke out in Louisville. Most of the fracases concerned who

would have to pay off their bets. The race was notable enough to merit a story in the June 2, 1853 edition of the New York Times.

28 Ari Kelman, “Forests and Other River Perils,” in Transforming New Orleans and Its Environs: Centuries of Change, Craig E. Colten, ed. (Pittsburgh: University of Pittsburgh Press, 2000), 60-61; Michael Williams, Americans and their Forests: A Historical Geography (New York: Cambridge University Press, 1989), 153-55; David E. Schob, “Woodhawks and Cordwood: Steamboat Fuel on the Ohio and Mississippi Rivers, 1820-1860,” Journal of Forest History 21 (July 1977), 124-32. The estimate for coal consumption divides the official tonnage (1,117) by the ratio of cords to tonnage (8), and then multiplies that figure by average running time per year (141). Land along the Mississippi River yielded eighty to one hundred cords of firewood per acre, so this study assumes that one acre contained sixty good sized trees. The estimates are from Henry Shreve to Charles Gratiot, Feb. 10, 1837; R. Collet to Henry Shreve, Oct. 20, 1836, and W. Thomas to Henry Shreve, Oct. 15, 1836, Letters Received, 1826-66, RG 77, Entry 18, National Archives and Records Administration, Washington, D.C.; Haites, Mak, and Walton, Western River Transportation, 143-46. The tonnage figure comes from the Lytle List. The larger tonnage figure (sixteen hundred) in Way’s Packet Directory, 138, is probably an estimate. The same formula was used to calculate total wood consumption, after calculating the figures for steamboat tonnage by decade and adjusting it for decennial variation. See Haites, Mak, and Walton, Western River Transportation, 130-31, 143-46.

29 William Williams, Transforming New Orleans and Its Environs: Centuries of Change, Craig E. Colten, ed. (Pittsburgh: University of Pittsburgh Press, 2000), 60-61; Michael Williams, Americans and their Forests: A Historical Geography (New York: Cambridge University Press, 1989), 153-55; David E. Schob, “Woodhawks and Cordwood: Steamboat Fuel on the Ohio and Mississippi Rivers, 1820-1860,” Journal of Forest History 21 (July 1977), 124-32. The estimate for coal consumption divides the official tonnage (1,117) by the ratio of cords to tonnage (8), and then multiplies that figure by average running time per year (141). Land along the Mississippi River yielded eighty to one hundred cords of firewood per acre, so this study assumes that one acre contained sixty good sized trees. The estimates are from Henry Shreve to Charles Gratiot, Feb. 10, 1837; R. Collet to Henry Shreve, Oct. 20, 1836, and W. Thomas to Henry Shreve, Oct. 15, 1836, Letters Received, 1826-66, RG 77, Entry 18, National Archives and Records Administration, Washington, D.C.; Haites, Mak, and Walton, Western River Transportation, 143-46. The tonnage figure comes from the Lytle List. The larger tonnage figure (sixteen hundred) in Way’s Packet Directory, 138, is probably an estimate. The same formula was used to calculate total wood consumption, after calculating the figures for steamboat tonnage by decade and adjusting it for decennial variation. See Haites, Mak, and Walton, Western River Transportation, 130-31, 143-46.

30 North American Review 35 (Oct. 1832), 415; Western Monthly Magazine 3 (June 1834), 317; Way, Way’s Packet Directory, 139. The figures for wood sales follow the calculations in previous notes multiplied by the average price for wood per decade. Payroll amounts were calculated by using the Haites, Mak, and Walton numbers to determine a tonnage figure for each decade and then multiplying those figures by the average payroll expenses for each decade ($5,320 until 1819, $6,850 for 1820-29, $13,610 for 1830-39, $12,265 for 1840-49, and $15,720 for 1850-60). See Haites, Mak, and Walton, Western River Transportation, 140-42.
This paragraph speaks to two significant and often tedious historical debates. The first revolves around the interpretation of the South as a non-capitalist or capitalist society and the second concerns the question of whether the United States experienced a “market revolution” between 1815 and 1860. For a useful overview of both debates and references to the relevant literature, see Tom Downey, *Planting a Capitalist South: Masters, Merchants, and Manufacturers in the Southern Interior, 1790-1860* (Baton Rouge: Louisiana State University Press, 2006), 1-6.


35 *Varion v. Bell*, No. 3697, 17 La. (o.s.) 532, Mar. 1841, Earl K. Long Library, University of New Orleans, New Orleans, La.; *Jefferson Foundry and Steam Engine Manufactory Ledger*, 1837-1839, and Buckner and Hughes Order Book, May 1835-Jan. 1836, both in FHS. The estimates for repairs and stores are based on Haites, Mak, and Wilson, *Western River Transportation*, 136-42, multiplied against tonnage figures. Haites, Mak, and Wilson estimate that repairs cost 12 percent of a boat’s original purchase price while the estimate for stores represented 30 percent of the total cost of stores, wages, and fuel.


**The *Heroine* of Louisville**  
*Archaeological Discoveries from an 1830s-Era Western River Steamboat*  
Kevin J. Crisman

In January 1812, the steamboat *New Orleans* completed an arduous passage from Pittsburgh, Pennsylvania, to New Orleans, Louisiana, a distance of nearly two thousand miles (3219 kilometers). The voyage marked the first successful use of steam propulsion on the Mississippi River and its tributaries, and the beginning of a transportation revolution on the western rivers of North America. Over the next twenty-five years, steamboat hulls and machinery rapidly evolved into a unique vessel type well suited for navigating these difficult waterways. During the middle decades of the nineteenth century, shipbuilders constructed hundreds of steamboats, and each year they carried uncounted numbers of passengers and tons of cargo between riverside ports and landings. Cheap, fast, and numerous, steamboats helped utterly transform the economic, cultural, and environmental landscape of the Ohio and Mississippi Valleys.¹ But the steamboat era did not last. By midcentury a new mode of transportation, the railroad, began to eclipse river steamers, and by the early twentieth century only a handful of the boats remained in service. Though powerful agents of change, steamboats were short-lived creations, and today few traces of the vessels can be found.

In May 1990, the Red River experienced one of its periodic flooding episodes, overflowing its banks and inundating bottomlands in the states of Oklahoma, Texas, Arkansas, and Louisiana. One stretch of the river in southeastern Oklahoma’s Choctaw County shifted over one-quarter mile (four hundred meters) north of the pre-flood channel, cutting a new path across a former cattle pasture. After the flood subsided, local fishermen and ranchers noticed the hull of a large wooden ship partially exposed along the north bank. More of it appeared over the following years as the bank continued to erode. Only a few individuals knew of the wreck’s existence until 1999 when one of the fishermen thought to inform employees at the nearby Fort Towson State Historic Site. Archaeologists from the Oklahoma Historical Society (OHS) and the Institute of Nautical Archaeology at Texas A&M University (INA-TAMU) determined the vessel was a sidewheel steamboat fitted with an arrangement of machinery used prior to the 1840s.²
Researchers did not know the name and precise date of the wreck in 1999, but they immediately recognized its archaeological and historical significance. Scholars know surprisingly little about the design, construction, and operation of early steam vessels, particularly those used on the Mississippi and its tributaries. The earliest known contemporary plans for a river steamer date to 1850, nearly four decades after the start of the steamboat era in the West. Well-preserved wrecks of these boats are also rare. Hundreds of river steamers plied the western rivers over the course of the nineteenth century, but archaeologists have located only a small number and studied even fewer. Two wrecks have been salvaged in recent decades—the Bertrand (sunk in 1865) and the Arabia (sunk in 1856)—and a handful of others have undergone limited test excavation and recording, but scholars still have much to learn about America’s age of steam. The location and age of this wreck made it of particular interest to the Oklahoma Historical Society, since it dated from the era when displaced Choctaw, Chickasaw, and Cherokee peoples from east of the Mississippi first settled the region.

Between 1999 and 2002, researchers surveyed the wreck site by sonar and magnetometer, recorded the partially exposed stern structure, and excavated test holes to determine the size of the wreck and extent of its preservation. This preliminary exploration revealed that the lower hull was intact from stem to stern (in many places up to the level of the main deck), and that elements of the propulsion machinery and barrels from the final cargo survived with the wreck. Accordingly, the OHS and INA-TAMU embarked on an ambitious plan to excavate the hull completely and recover its machinery and contents. The research team did not attempt to salvage the hull due to the projected high costs of recovery, conservation, and exhibition.
Between 2003 and 2006 excavations were carried out during the summer and fall months as Texas A&M University field schools in archaeology. During the first two years the work focused on the aftermost fifty feet (15.24 meters) of the wreck. The Red River proved a challenging environment for archaeology: visibility was rarely more than one foot (thirty centimeters); powerful river currents made it difficult for divers to hang on, let alone excavate and record; and researchers had to purchase more powerful water pumps to enable the dredges to keep up with the rapid influx of current-borne sand into the trenches. By the end of 2004 the stern was completely uncovered; it consisted of the after cargo hold and—separated from the hold by a plank bulkhead—a storage compartment called the run. Artifacts found in the hold area included barrels and parts of barrels (some still containing pickled pork), as well as two hand trucks for moving cargo. The run contained a mix of the crew’s personal possessions, assorted tools, and lost or discarded pieces of ship’s equipment. Divers also recovered the entire rudder and tiller of the steamboat. The former showed signs of longtime use—extensive wear and areas of damage and repair—clear evidence that the boat was not new when it sank.4
At the beginning of 2005 two-thirds of the hull (about ninety feet or twenty seven meters of its length) remained unexcavated, much of it more deeply buried than the stern. Fate smiled on the project, however, and gave the upper Red River region two years of unusually dry weather. The decreased river depth and current, and the team’s accumulated experience on the wreck, allowed it to work much faster than before, and by the end of 2006 the excavation of the hull was complete. In 2005, the project concentrated on two areas: amidships below the piston-supporting cylinder timbers, and the bow of the steamboat. In both areas much of the main deck structure survived intact. A large cache of pork and flour barrels turned up in the amidships area, along with boiler and machinery elements. Though buried under nine feet (2.74 meters) of sand, the bow proved to be in excellent condition, with intact deck planks, three hatches, and a watertight partition (called a snag chamber bulkhead) that created a separate stowage compartment in the bow. The compartment yielded a collection of damaged or broken cast iron boiler grates and machinery elements, a number of tools, and a glass bottle with the words “Miller’s Tonic” embossed on one side.
In 2006, excavations first concentrated on the amidships hold area between the bow and the cylinder timbers, the area where the steamboat’s boiler assembly was originally mounted on the main deck. In contrast to the sections of hull excavated forward and aft of this location in 2005, the structure here was badly damaged, with the main deck and starboard side entirely missing and the port side torn asunder. The reason for the extensive damage became apparent after divers found a softwood log poking through the port side of the hull. Here was the “murder weapon,” a snag that tore through the planking and frames, and sent the steamboat to the bottom of the river.

The team devoted the fall of 2006 to disassembling and removing the surviving propulsion machinery: the two massive flywheels amidships, the main paddle shafts, and the port and starboard paddle wheels and their support bearings. Examples of early steamboat machinery are extremely rare, and the pieces from this wreck promised to answer many questions about their manufacture, installation, and maintenance. The disassembly of the machinery looked complicated and researchers prepared a variety of pneumatic saws and chisels for the task, but most of the threaded bolts were simply unscrewed with the aid of a large wrench. A helicopter moved heavier pieces from the wreck to the river bank, and they were subsequently taken to the Conservation Research Laboratory at TAMU for conservation treatments. A short field project in 2008 recovered a few remaining machinery elements not lifted from the river in 2006, but the project thereafter shifted to analyses of the field data, study of the artifacts, research in libraries and archives, and reconstruction of the hull and sidewheel machinery. As always in archaeology, many of the greatest discoveries came after the digging, when researchers could fully assess the finds and determine their significance.
Helicopter lifting machinery of steamboat wreck in November 2006.
OHS AND INA-TAMU
The Steamboat Heroine

Historical research on the Red River wreck initially focused on finding the steamboat’s identity. When INA-TAMU and OHS first examined the wreck in 1999, two features helped to narrow down the likely date of its loss. First, the vessel had relatively large dimensions. Until the spring of 1838 an ancient, one hundred sixty-mile-long (257 kilometer) logjam in northwestern Louisiana known as the “Great Raft” blocked access to the upper Red River. A vessel of this size could not have ascended to Fort Towson until that year when a navigable channel was opened through the raft. Second, the steamboat’s center-mounted flywheels indicated an early single-piston configuration that was largely superseded when twin pistons came into common use on western steamboats after 1840. Together these two clues suggested that the wreck sank in the late 1830s or early 1840s.

A number of blind leads complicated identification. The National Archives yielded correspondence from the commander of Fort Towson reporting the snagging of a steamboat carrying supplies to the fort in early May 1838. Unfortunately, the officer did not name the boat in the correspondence. The memoirs of a steamboat captain, written in the 1870s, recounted the sinking of a steamer near Fort Towson in the late 1830s, but misidentified it as the New York. The May 23, 1838 edition of the New Orleans Daily Picayune finally yielded the correct name, when it reported that Heroine hit a snag two miles (3.21 kilometers) above Jonesborough, Texas. Jonesborough no longer exists, but the site of the former town is about the same distance downriver of the wreck’s location. The Lytle-Holdcamper List, a compilation of known American steamboats up to the year 1868, includes a Heroine built in 1832, but that vessel measured ninety-seven tons, too small for the wreck in Oklahoma. Also, it reported the ninety-seven-ton Heroine sunk in the upper Mississippi River in 1837, not in the Red River in 1838. A contemporary steamboat inventory that listed two steamboats called Heroine, both built in 1832, finally cleared up the confusion. The smaller of the two was the ninety-seven-ton vessel lost in 1837, while the larger Heroine, listed as 146 tons, sank near Fort Towson in 1838.

With the question of identity satisfactorily resolved, historical research thereafter focused on tracking Heroine’s career and the circumstances that led to the sinking. The documentary study also sought to complement the archaeological discoveries by delving into the wider technological, social, and economic milieu of the early steamboat era on the Mississippi and Ohio Rivers and their tributaries. The U.S. government enrolment papers for Heroine, which would have listed the names of the builder and owners, as well as the hull’s recorded dimensions, cannot be found in the National Archives. However, contemporary sources
such as newspapers, travelers’ narratives, government correspondence and census records, city directories, and collections of steamboat-related documents provide many details about *Heroine’s* six-year career. One individual consistently appears in these records: Jeremiah Diller. For most of its career the boat appears to have been owned, either wholly or in part, by this cabinetmaker-turned-steamboat-captain from Louisville. Born in 1787 in Lancaster County, Pennsylvania, Diller left home in 1807 and walked all the way to the village of Louisville at the falls of the Ohio River. As the town grew and prospered, so did Diller’s circumstances. Over the next twenty years he established a woodworking and furniture sales business, married, had four daughters, and owned a house on Fifth Street between Market and Jefferson (he also owned a farm in Middleton, Kentucky).

Around the time he turned forty, Diller struck off in an entirely new direction; he began to own and command steamboats. Between 1828 and 1832, he captained at least four: *Essex*, *Crusader*, *Cumberland*, and *Water Witch*. In July 1832, he left *Water Witch* to oversee the completion of a vessel building at a yard in New Albany, Indiana. Diller originally named his new steamboat *Black Hawk* for the Sauk chief who went to war in 1832 to regain lost tribal lands in Illinois, but for unknown reasons he re-named it *Heroine* shortly before the maiden voyage in November 1832. The steamer had an overall length of 136 feet, 8 inches (41.65 meters), a hull breadth of 20 feet, 4 inches (6.19 meters), a breadth across the main deck of 32 feet (9.75 meters), and a depth of hold of 6 feet (1.82 meters). Its registered tonnage was variously listed as 146, 150, and 160 tons. Comparing *Heroine* with the tonnage figures for 183 western river steamers on a list compiled in 1832 (of the total of 220 steamers reportedly operating in the West in that year) offers a sense of the boat’s relative size. The largest vessels were the five hundred-ton *Homer* and *Mohawk*, and the smallest the thirty-two-ton *Exchange*. The great majority of these boats, 134 of 183, ranged from 50 to 199 tons (see Table 1). This and other historical evidence suggests that *Heroine* was a medium-sized vessel of its day, a type sometimes referred to as a second class steamboat.

*Heroine* was characterized by a long, narrow, shallow-draft hull, with a graceful curving stem and full, rounded bow, a near-flat bottom and straight sides that flared outward slightly for most of its amidships length, and a short, full run astern. The interior of the hull had small compartments at the bow and stern, but was otherwise an uninterrupted space given over to the stowage of cargo. The main deck supported the

<table>
<thead>
<tr>
<th>Tonnage Range</th>
<th>Number of Steamboats</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-49</td>
<td>2</td>
</tr>
<tr>
<td>50-99</td>
<td>45</td>
</tr>
<tr>
<td>100-149</td>
<td>57</td>
</tr>
<tr>
<td>150-199</td>
<td>32</td>
</tr>
<tr>
<td>200-249</td>
<td>9</td>
</tr>
<tr>
<td>250-299</td>
<td>5</td>
</tr>
<tr>
<td>300-349</td>
<td>11</td>
</tr>
<tr>
<td>350-399</td>
<td>11</td>
</tr>
<tr>
<td>400-449</td>
<td>6</td>
</tr>
<tr>
<td>450-500</td>
<td>5</td>
</tr>
</tbody>
</table>

*Table 1. Western River Steamboat Tonnages, 1832*
(Source: Richard W. Otis, *The Louisville Directory for the Year 1832* [Louisville: James Virden, 1832]).
boilers (an estimated four in number), and the heavy oaken cylinder timbers that seated the single piston and its crank (or pitman), as well as a pair of one-ton flywheels on the inboard ends of the main shafts. Outboard of the flywheels and atop the guards sat paddle boxes that shielded the sidewheels, as well as side houses forward of the paddle boxes. When in service, *Heroine*’s main deck would have been encumbered with cords of firewood for the boilers; bulky or perishable cargoes such as livestock, barreled foodstuffs, and cotton bales; and low-fare deck passengers who camped amidst the machinery and cargo.

Above the main deck stood a lightly built, boxy superstructure with two decks, the upper or boiler deck and the hurricane deck at the top. *Heroine* advertised as an “Upper Cabin Steamer,” indicating that the boat followed the new trend of accommodating all higher-paying cabin passengers on the upper deck (steamers of the 1820s often berthed first class passengers on the main deck or in the hold). The term cabin at this time referred to the entire passenger-accommodating area, including both public and private spaces. Cabins were segregated by gender, with the smaller “ladies cabin” aft and the larger main or “gentleman’s cabin” forward. Cabin passengers paid substantially more than deck passengers (Louisville to New Orleans fares ran about twenty five
and six dollars, respectively), but cabin travelers enjoyed private berths or small staterooms (probably the former on Heroine), the luxury of carpeting, furniture and cabin stoves, and three meals a day served at a long table in the main saloon of the gentleman’s cabin. Forward of the main saloon most steamboats had separate smaller cabin with a bar for serving alcohol and accommodations for the boat’s officers. The open hurricane deck atop the vessel typically featured one or more skylights over the cabin saloons, stove pipes, and a steam-escape pipe for the engine, and at its forward end a simple pilot house enclosing the boat’s wheel. Cabin passengers also used this deck as a vantage point for viewing the scenery or for shooting waterfowl, turtles, and alligators. Generally plain in appearance, western steamboats of the 1830s lacked much decoration beyond half-round moldings on the guards and a coat of paint, a far cry from the elaborately trimmed boats of the later nineteenth century.

*Heroine*’s crew probably averaged around twenty individuals. At the top of the command structure stood the captain, a position that frequently rotated on *Heroine*. Jeremiah Diller served as captain for several trips every year, but other riverboat captains regularly relieved him (*Heroine* navigated under at least twelve different captains over the course of its career). Lesser officers included a mate responsible for the day-to-day management of the boat; two pilots; a clerk who kept records of the boat’s cargo, passengers, and finances; and two engineers who supervised the boilers and engine. Apprentices hoping to enter into a career on steamboats frequently aided pilots, clerks, and engineers. Lower-level laborers included deckhands, firemen who stoked the boiler fires, and the cook, steward, and cabin staff who attended to the needs of the cabin passengers.

Prior to the 1850s the majority of western steamboats operated as “transient” carriers, a type defined by Louis Hunter as “free lances roving from trade to trade wherever business beckoned, without any fixed field of operations and without schedule or regularity.” *Heroine*’s career fit this definition, for the boat rarely maintained one route for more than a few passages. But *Heroine*’s wanderings around the Mississippi River basin were not entirely random. The circulation of people, agricultural commodities, and manufactured goods waxed and waned throughout the year, subject to the demands of commerce and the seasonal cycles of agricultural production. Business tended to peak in the last quarter of the year when merchants shipped cargoes of flour, salt pork, whiskey, cotton, and other products to markets. Cold weather and ice often limited navigation of the Ohio, Missouri, and upper Mississippi Rivers for several weeks or months in the winter, forcing owners either to lay up their steamers or put them to work hauling cotton on southern rivers. Traffic surged again in the springtime with the rise of the rivers, only to drop off in mid-summer when low water closed some rivers to deeper-draft steamers, and heat and endemic fevers caused a general slowdown of business activity in the South.
Heroine’s five-and-one-half years of service (1832-1838) can be tracked through newspaper “Marine News” columns that reported vessel arrivals and departures. These reveal that Heroine most frequently traversed the thirteen hundred-mile (2092-kilometer) passage between Louisville and New Orleans, Louisiana. During winter months the boat often carried freight—mostly baled cotton—between New Orleans and riverside landings on the lower Mississippi, Red, and Yazoo Rivers. Heroine also hauled people and cargoes between Louisville and St. Louis, Missouri, and occasionally navigated the lower Missouri River. In May 1836, during the Texas Revolution against Mexico, Heroine advertised for “Texas,” though the port of destination was actually Natchitoches, Louisiana, on the lower Red River. The boat likely carried military supplies or troops to support the war effort. Two months later, the steamer transported ninety-four Louisville volunteers for the Army of Texas down the Mississippi River to New Orleans. The New-Orleans Bee recorded some of the cargoes that Heroine delivered to New Orleans. These entries indicate both the wide range of goods carried down the river and the willingness of the boat’s captains to pile on cargo when business was good. On one passage, Heroine arrived from Manchester, Mississippi, on the Yazoo River heavily burdened with nine hundred seventy bales of cotton. On another passage, Heroine arrived from St. Louis with five hundred barrels of flour and tobacco in the hold, ninety-six bales of cotton, and ninety-five horses. One memorable trip from Louisville saw Heroine deliver a mixed cargo of bacon, lard, salt pork, tobacco, castor oil, whiskey, oats, apples, eggs, chickens, eight horses, thirty tons of hay, and a herd of 637 sheep.¹⁴
The diary of Virginia businessman William Fairfax Gray contains the only eyewitness account of travel on Heroine thus far found. Returning home from a trip to Texas and New Orleans, Gray boarded Heroine at Vicksburg, Mississippi, for cabin passage upriver to Louisville on June 3, 1836. Initially unimpressed, Gray confided that he “found myself on board of a sorry old boat, and rather indifferent company.” Three days later he revised his opinion: “The boat and passengers both begin to improve. The officers of the boat are very attentive. The steward, an old black man, is the best steward I have seen on the western waters.” Gray had an eventful trip on Heroine. One of his fellow cabin passengers, recently charged with murder, was returning home from a meeting with his lawyer in Vicksburg. Upriver of Memphis, Tennessee, a deranged passenger threw himself off the stern and drowned, and during the night of June 7 the boat hit a floating log or snag but luckily suffered no serious damage.\(^{15}\)

Gray’s description of the four-year-old Heroine as a “sorry old boat” and the collision with the snag illustrate the rapid aging and hard knocks experienced by western river steamers. On average, one of these boats lasted about five years. Lightweight construction throughout the hull and upperworks permitted navigation of shoal waters, but also meant that vessels wore out quickly and were easily damaged in collisions. Narrow river channels contained multiple hazards to navigation: snags (the most frequent cause of steamboat losses), sandbars and rocks, other steamboats on the river, and submerged wrecks under the river. Fire was another common danger, for the generation of high-pressure steam required that firemen maintain a roaring blaze under the boilers to keep the vessel under way. Boilers and stoves in the cabins and galley continually spewed glowing sparks into and over a steamboat’s superstructure, described by one passenger as a “frail pile of painted wood.” Once the topsides of a steamboat caught fire they burned with incredible rapidity, and unless the crew discovered and extinguished a fire immediately, people on board could do little other than abandon the vessel as quickly as possible. Diller’s son-in-law, Christopher G. Castleman, also a riverboat captain, lost his steamers New Brunswick and Ben Sherrod to fire, the latter in a roaring conflagration that killed an estimated sixty to seventy passengers and crew.\(^{16}\) The Sherrod fire took the lives of Castleman’s father and two young sons. His wife Caroline (Jeremiah’s oldest daughter) was also badly burned, although she survived.

But an altogether new horror for nineteenth century steamboat travelers most captured the public’s attention: catastrophic boiler failure. This took two principal forms: sudden releases of high-pressure steam (the result of a collapsed boiler flue, a broken steam pipe, or a cracked cylinder head) or the outright explosion of one or more boilers. Such accidents rarely sank a steamboat, but often killed nearby crew and passengers or left them horribly maimed and scalded. One historian has estimated that by the early 1850s boiler explosions inflicted one half of all fatalities in western steamboat accidents. Popular opinion held that reckless,
hard-driving captains and inept engineers caused the explosions. Careless operation certainly played a role in many steam accidents, but even well-run boats suffered their share of disasters. The fundamental problem was that scientific knowledge of metallurgy and the properties of high-pressure steam lagged far behind the development of steam technology in the early nineteenth century. Methodical research into the causes of boiler accidents began in the 1830s, and after a string of calamitous steamboat explosions in 1838 Congress finally passed a law requiring regular boiler inspections. But the law was not effective, and steam-related accidents continued to plague the western rivers until the passage of another federal law in 1852 that mandated more stringent inspections, regulations, and fines.17

*Heroine*’s turn for catastrophic boiler failure came on October 4, 1835 while the steamer churned up the Mississippi River between Cairo, Illinois, and St. Louis. One of the boilers collapsed a flue, sweeping the foredeck with a blast of boiling water and high-pressure steam. The explosion killed the engineer instantly, blew three deck hands overboard, and badly scalded three other men, at least one of whom later died of his injuries. Among those killed was a young man named Jeremiah Diller, a nephew of Captain Diller. The boat suffered only minor damage, however, and *Heroine* resumed operations within the month.18

*Heroine* beat the odds by staying in service into a sixth season. Circumstantial evidence suggests that Jeremiah Diller sold the boat to a Louisiana-based captain named J. R. Hord in late 1837 or early 1838 (at that time Diller was outfitting a new steamboat called *Worden Pope*). Captain Hord worked in the bulk

![Explosion of Moselle at Cincinnati](cincinnati-museum-center)
trade, supplying New Orleans markets with livestock, produce, and other low-value commodities from lower Mississippi and Red River ports, a line of business well-suited to old, worn-out boats. During the winter and spring of 1838, Heroine operated as a packet between Vicksburg and Natchez in Mississippi, and the town of Natchitoches in Louisiana. In late March, an agent working for two Columbus, Ohio, contractors hired the boat to transport the annual supply of provisions to the U.S. Army garrison at Fort Towson on the upper Red River. The cargo included two hundred forty barrels of salt pork and five hundred barrels of flour, as well as dried beans, salt, candles and soap.\(^{19}\)

A major national public works achievement of the day, the opening of a channel through an ancient log jam called the “Great Raft” that clogged the Red River in northwestern Louisiana made possible the voyage to Fort Towson. Masterminded by marine engineer Henry Shreve, the clearance required five years of work by patented snag-pulling catamaran boats. Heroine was among the first large steamers to venture into the upper river. The boat made slow progress up the uncharted channel above the Great Raft but it succeeded in reaching Jonesborough, Texas, where it had to pause to await a rise in the river to complete the final four miles (6.4 kilometers) to reach its destination. On May 6, the vessel attempted to finish the passage, but midway between the town and the fort’s landing a submerged softwood log tore open the port side of the hull. Heroine sank in shallow water, enabling the crew to salvage some of the cargo, but the flour, beans, and much of the pork were ruined. The crew removed the engine for re-use in another boat, and the boilers were salvaged at some point after the sinking, as well. The owner abandoned the hull, old for a western steamboat and profoundly damaged by the snag, where it lay. Low water periodically exposed the wreck until 1844, when a massive flood buried it under twenty feet (7.62 meters) or more of sand.\(^{20}\) Protected from the effects of weathering and lost to human memory, Heroine was forgotten until another flood in 1990 shifted the river and revealed the steamboat once more.

**Rediscovering the Forgotten: Archaeological Finds from Heroine**

Since the 1830s a limited historical record of Heroine’s existence has resided in libraries, archives, and government files. Until 1999, however, the vessel remained an abstract piece of the past, just one more anonymous name on a list or in an old newspaper. The discovery of the wreck changed all that. Fate, in the form of a submerged log, has left an archaeological gift, a treasure that survived up to the present time thanks to floods that first buried and then later revealed the hull and its contents. The wreck represents a material leftover from the world of Jeremiah Diller, J. R. Hord, and hundreds of other mostly unknown people who built, worked aboard, shipped goods and traveled on, or salvaged the steamboat between 1832 and 1844. For understanding steamboat technology and steamboat life on the western rivers, no substitute exists for having an actual steamboat within your grasp.\(^{21}\)
The present-day *Heroine* is a battered shadow of its former self, and yet the wreck has a surprising amount to tell about the design, construction, operations, and daily life of an average river steamer from the 1830s. For purposes of analysis the archaeological data and finds have been separated into four broad functional categories: 1) the hull (intact structure, detached timbers, and metal fasteners); 2) the propulsion system (the boiler, engine, flywheel, and sidewheel elements); 3) cargo-related finds; and 4) crew- or passenger-related finds. Most of the artifacts the research team recovered fit into one of these categories, although a few overlap, have an ambiguous function, or are presently unidentifiable.

The largest artifact was the hull: the frames, planks, posts, various longitudinal pieces, spikes, and bolts that together made up *Heroine’s* structure. The product of an as-yet unidentified shipyard in New Albany, Indiana, the hull is an archaeological treasure, providing an unparalleled opportunity to identify and understand the design, materials, assembly techniques, and features of 1830s-era steamboats. The preservation of the structure up to the main deck has allowed researchers to prepare hull lines and construction plans. *Heroine’s* builders had access to a plentiful supply of good white oak. Nearly all the sampled wreck timbers were identified as white oak, the exceptions being the pine used for planking the main deck and the black locust used for the mooring and towing bitts. Most of the wood used for the hull’s frames and deck beams came from a sawmill in straight lengths, with average sectional dimensions of five inches (12.7 centimeters) across and seven inches (17.8 centimeters) high. The builders of *Heroine* fastened timbers together with wrought iron bolts and spikes. The dimensions of the individual timbers and numbers of fasteners holding them together were substantially less than those in a comparably sized seagoing ship.

The construction of the steamboat began with the shipwrights laying down a keel that consisted of several lengths of four-inch-thick (10.16 centimeter) plank. The stem and stern posts consisted of fairly robust assemblies, supported by heavy internal reinforcing timbers, not surprising in light of the strains and impacts likely to befall the ends of the vessel. The first twelve full frames aft of the bow had doubled floors (the lowest timbers that crossed the keel) to better withstand collisions and groundings. For most of the vessel’s length, however, the frames had single floors and were widely spaced along the keel when compared to frames of seagoing ships. The bottom and side planking was uniformly two inches (2.54 centimeters) thick from the keel to the top of the sheer. The main deck beams were also of modest dimensions, widely spaced, and secured to each side of the hull by two bolts, one in the uppermost clamp and the other in the sheer strake. No evidence exists that the builders employed curved reinforcing timbers—called knees—typically used to reinforce the critical join of deck and sides of an open-ocean hull. In wooden shipbuilding, desirable features usually came at the expense of other qualities; *Heroine’s* builders sought a shallow draft above all, but to achieve it they had to sacrifice strength and long-term durability.
The wreck of Heroine has answered a longstanding question about the longitudinal reinforcement of early river steamer hulls, a serious concern for builders and owners. The long, narrow hull form and light construction made these boats prone to bending out of shape, either by the drooping of their ends (hogging), or by settling amidships (sagging). By the late 1830s and early 1840s steamboat builders found a solution in hog chains, a system that employed long wrought iron rods—connected by turnbuckles and supported by posts—as longitudinal trusses to hold up the ends of vessels. Hog chains became a signature feature of western steamboats after this time, and they allowed even lighter construction and shallower draft in proportion to the size of river steamers.  

So what did builders use before the development of hog chains? The pre-hog chain Heroine reveals that they reinforced hulls by individually notching the internal longitudinal timbers—the keelson, bilge stringers, and paired clamps—down over the frames and bolting them in place. The system was probably reasonably effective, but notching involved much more time and labor during construction and did not enable adjustment as the turnbuckles of hog chains did. Heroine lacked hog chains, but the research team found evidence of one “cross chain,” a transverse arrangement of rods, turnbuckles, and support posts that helped to support the outboard extensions of the main deck (the guards) just forward of the paddle wheels. This cross chain reveals that the new truss systems were coming into use during Heroine’s lifetime, but the hull was built too soon for hog chains.

Starboard section drawing of Heroine’s hull, showing the light construction and the notching of longitudinal timbers over the frames.

DRAWING BY KEVIN CRISMAN
The crew salvaged the engine cylinder and probably the boilers of *Heroine* soon after the sinking, but clues to their locations, dimensions, and general assembly survived on the hull: notches for deck-supporting posts on the keelson’s top showed the approximate length of the boilers; pieces of cast iron boiler mounting, firebox face, and a feed-water pipe showed the diameter of the boilers and their height above the deck; the heavy white oak cylinder timbers on the main deck indicated both the outside diameter of the cylinder and the length of its piston stroke. The remaining elements—the flywheels with their heavy cast iron flanges and rims, the two main and paddle shafts, shaft-support bearings, and the two sidewheels—were either complete or at least represented by substantial pieces. Project steam engine expert Glenn Greico drew on these and other clues to prepare engineering plans of the entire propulsion system and build precise scale models showing the machinery both as the team found it and as it likely looked when *Heroine* was in service.23

The entire propulsion assembly possessed a simplicity of design and materials. The shipbuilders used oak timbers and planks for the pitman, flywheel arms, paddle arms, and paddle buckets, and employed copper-alloy inserts for some bearing surfaces within pillow blocks. Nearly everything else—the cylinder and piston, flywheel and paddle flanges, shafts, shaft couplings, and shaft-supporting pillow blocks—was made of cast iron. The designers kept tolerances in the linkages between pieces intentionally loose to allow for movement of the hull and engine support structure. On the upside, this ensured that the machinery was uncomplicated, inexpensive to purchase, and most repairs could be made with a blacksmith’s
forge and a few basic tools. But cheapness and simplicity also had a downside. Cast iron is inherently brittle, and the hard service on the river showed in many places: paddle wheel arm pockets were broken off all four of the paddle flanges (every pocket on the port inboard flange was missing its outer end), while some flywheel sections were cracked and at least one was splinted with a metal collar. The recovered artifacts also revealed the challenges of keeping the propulsion system aligned. Pillow blocks were extensively shimmed with wood or metal wedges and one of the port side paddle flanges was mounted on its shaft in a lopsided manner and wedged with a multitude of spikes, bolts, and wooden shims. Bearing surfaces showed extensive wear, and within the port paddle flange’s outboard pillow block one of two brass inserts had fallen away, causing the shaft to wobble badly and score itself against the iron surfaces. On its last voyage Heroine’s machinery was seriously out of balance, and everyone on board must have found the resulting noise and vibration highly unpleasant. Such problems were probably common on many older boats as pieces wore out or broke and the hull structure became more flexible.

The research team found evidence of Heroine’s career as a carrier of provisions and finished goods scattered throughout the hold in the form of barrel pieces, a broken grindstone, and a nearly complete small wooden box stenciled “No. 1 SOAP” on one end, with the hand-painted word “Vicksburg” on the top. Staved storage containers were the most common cargo-related find; this category included intact barrels, partial barrels, and loose staves and heads, all of which added up to one hundred seventy staves, thirteen complete heads, and ten half-heads. Researchers identified three types of staved containers: heavy-staved (one half to three-quarter inch or 1.27 to 1.9 centimeter thick) tight barrels for pickled pork (three such barrels were recovered with
their contents intact); medium-staved (one half inch or 1.27 centimeter thick) barrels for flour; and the thinnest (one quarter inch or .63 centimeter thick) for lightweight commodities, possibly dried beans in this instance. Some barrel heads had brands and stencils that indicated the original contents. Alfred S. Reeder, a pork merchant in Cincinnati, produced one of the intact pork barrels, stenciled “A. S. Reeder Packer Cin’t.” Several flour barrel heads bore the stencil “Armstrong” to certify that James Armstrong, a flour inspector for the city of Cincinnati, had examined and approved them. Finally, the stencil “USA,” found on several heads, showed that the contents belonged to the shipment destined for the U.S. Army soldiers at Fort Towson.25

Divers found a small collection of tools for handling cargo in the hold, including ropes and tackle blocks as well as parts of two hand trucks for lifting and rolling heavy items. One nearly complete hand truck bore the name “J. Walter” in two places, branded on a cross piece and embossed on a small tin plate tacked to the truck; the probable maker was Jacob Walter, a blacksmith and machinist whose shop stood near Louisville’s riverfront.26 Researchers found three sets of paired hooks, one with broad, curved edges for lifting barrels (known as can hooks), hooks with a pair of sharp tongs at their ends (designed to lift cotton, hay, or other baled materials), and hooks with a single curved prong at their ends. The simplicity and limited capacity of the cargo-handling tools serve as a reminder of how much the loading and unloading of steamboat cargoes in the 1830s depended on human muscle power.

The artifact category crew- and passenger-related finds necessarily encompasses a broad range of objects: shoes, buttons, and other apparel items; glass and ceramic vessels and table utensils; tools; and idiosyncratic items such as one metal stirrup and half a crystalline geode. Researchers found limited quantities of items that

Stirrup recovered from the stowage compartment or run in the stern of the Heroine.
OHS AND INA-TAMU
may have been personal possessions of people on board *Heroine*, reflecting the fact that most of the living and working on western steamboats took place on the main or boiler decks while crews principally employed the space below the main deck for storage of cargo and equipment. Heroine's crew used separate compartments found in the hull at the bow and stern for storage of some personal possessions, and the research team found most of the items in this category in these spaces.

The compartment in the stern (the run) could be entered via a small companionway (a man-sized hatch) located just forward of the sternpost and offset to the port side of the tiller. A large iron hasp attached to the deck over the opening allowed the crew to lock a cover in place and keep unauthorized people out of the run. Researchers found mundane items in the run: old leather shoes and a complete high-top boot, short lengths of stove pipe, a crushed tin basin, rope and tackle blocks, an iron chisel, the stirrup and the geode, the “No. 1 SOAP” box, and a metal spoon or fork handle. The crew appears to have used this space as a catch-all for personal belongings and ship's equipment. A mass of odd wood pieces and shavings, liberally soaked in spilled pine tar, filled the bottom of the run, suggesting that woodworking also took place within its narrow, dark confines. The bow compartment, separated from the hold by the watertight snag chamber bulkhead, was accessible via two small companion hatches. The bottom of the compartment had a stack of iron castings: three boiler grates that had deformed from overheating, several unidentified rectangular pieces that may have been grate bar supports, and a T-shaped piece from a cam frame. All of these
appear to have been discards kept for recycling at a foundry. The compartment also contained tools: three wheels (or sheaves) from tackle blocks, an iron-headed hammer, a wooden mallet, and a small iron block on a metal post of unknown function. The spaces between frames were disappointingly clean, as if crew members had carefully swept out the bow a few weeks prior to the sinking.

The one truly personal find in the forward compartment was a hexagonally sided light-green-glass bottle with the embossed words “Miller’s Tonic.” The inventor and bottler of the tonic remains unknown, although it may have been a Louisville druggist named H. J. Miller who kept a shop on Main Street between Third and Fourth Streets, not far from the waterfront. The composition of the tonic also remains a mystery, though a contemporary letter from Mary F. Cowgill at Mills Point, Kentucky, to her “Dear Mother” in Louisville contains a hint of its properties. Among other domestic news, Cowgill notes that “Little Fanny Jones is getting a great deal better she is taking Millers Tonic and all the swelling is out of her face and body but her feet are still swelled some.” Was Miller’s concoction a diuretic, or was little Fanny unknowingly imbibing laudanum or distilled spirits? Whatever the bottle contained, its presence in the bow compartment reveals a small, human moment of life on Heroine, when one member of the crew felt ill and out of sorts, and resorted to this bottle of tonic for relief from his symptoms.

**Conclusion**

In 1999, archaeologists examined an unidentified steamboat wreck in the Red River, beginning a lengthy research effort that involved multiple seasons of survey and excavation. The work ultimately resulted in the recovery of cargo, possessions of the crew and passengers, and well-preserved elements from the boat’s propulsion system. Although the archaeological team left the hull itself under the river, it documented the boat’s construction with thousands of sketches and measurements, permitting the analysis and reconstruction of its design and assembly. The
study of the wreck, while time-consuming and often challenging, rewarded the Oklahoma Historical Society and the Institute of Nautical Archaeology at Texas A&M with new insights into hull construction, early steam technology, and life on river steamboats.

The study of Heroine’s hull was particularly enlightening. The thin documentary record of the earliest western steamboats says little about design and construction practices, but the wreck provided solid evidence of both. Shipwrights in the pre-hogchain era dealt with hogging and sagging of the long, narrow hulls by notching longitudinal timbers over frames, a labor-intensive, time-consuming process. The wreck also showed just how steamboat builders cut down weight (and thus draft) by reducing the size of principal timbers, minimizing numbers of iron fasteners, widely spacing the frames along the keel, and entirely omitting knees at the juncture of the main deck and the sides. The bow yielded the only extant example of the snag chamber bulkheads briefly employed on the earliest steamboats. Heroine’s lines, developed from the wreck itself, offer a look at western steamer design that predates the earliest plans in the historical record by nearly two decades.

Heroine’s boilers, engine, and machinery, though not complete, reveal much more than previously known about the manufacturing, installation, and operation of early steam propulsion systems. Furthermore, the paddle and fly wheel flanges showed both how easily the cast iron components broke and the techniques used by steamboat engineers to repair the damage. While the crew salvaged much of Heroine’s final cargo at the time of the sinking or it later washed away, the discovery of shipping containers and tools for loading and unloading cargoes reveal aspects of daily commercial operations on the boat. Whole and partial barrels and their contents offered information about Cincinnati’s famous pork-processing industry and U.S. Army provisioning in the 1830s. The interior of the hull contained evidence of everyday life on the steamboat, particularly the crew’s use of below-deck space in the bow and stern. The study of the finds is ongoing, and will doubtless yield more discoveries as the research moves forward.

A program of research in libraries and archives paralleled the archaeological efforts in the Red River. In 2004, researchers finally discovered the name of the steamboat, the date of its sinking, and the cause of its loss in a short news item in a New Orleans newspaper. Documentary evidence gathered since then suggests that Heroine was a typical boat of its day, a middling-sized transient carrier of people and goods between western ports, principally Louisville, St. Louis, and New Orleans. Heroine participated in both the ordinary and extraordinary events of its time, hauling cotton to New Orleans, transporting volunteers to fight in the Texas Revolution, experiencing a fatal boiler-flue collapse, passing through Henry Shreve’s newly opened channel in the Red River Raft, and finally sinking with a cargo of provisions intended for U.S. Army soldiers on the western frontier of the
United States. Research that draws upon both the documentary and archaeological records often yields insights not possible when scholars rely solely on one or the other source. The combination creates an informational whole much greater than the sum of its parts. The Heroine project has sought to mine the material and written sources to the fullest extent possible. In the process, it has established a new benchmark for understanding early steamboats on the western rivers.


9 John Luther Ringwalt, The Diller Family (Philadelphia: n.p., 1877), 41. According to this family genealogy, “Jeremiah went to seek his fortune in Kentucky about 1807, going the whole distance on foot, which is an evidence of the enterprise and perseverance which characterized him; after accumulating considerable means by cabinet making, he invested in steamboats; he owned and commanded several which ran between Louisville and New Orleans. He married Elizabeth Abell, and had four daughters, viz., Caroline L., who married Christopher Greenup Castleman…Angeline married John Lee, and resides at Eureka, Missouri; Sarah E. married James P. Thompson (both are deceased), Ellen M. married Dr. George M. Walling; they reside in Louisville…. In 1864 Jeremiah Diller was married a second time, to Lucy Shirley, of Lancaster, Pa., and he died in 1869, aged about 80 years.” Newspaper entries, census data, and Kentucky and Louisville records provide additional biographical information about Diller.

10 James Hall, Statistics of the West, at the Close of the Year 1836 (Cincinnati: J. A. James and Co., 1836), 252, 256. Various newspaper arrival and departure announcements list Diller as captain for the four steamboats from 1828 through the middle of 1832. He captained Cumberland on November 5, 1831 when it hit a submerged rock and sank while ascending the Mississippi River eight miles (12.87 kilometers) above Grand Tower, an accident that
resulted in the death of three children. The passengers absolved Diller of any blame for the sinking and praised his efforts to save lives; see St. Louis Beacon, Nov. 10, 1831, *Louisville Public Advertiser*, Oct. 25, 26, 1832. Several other steamboats named *Blackhawk* entered service around this time, and Diller may have wanted to avoid duplication, although as noted a smaller, ninety-seven-ton steamer that entered service in 1832 also used his second choice of *Heroine*. The name was likely inspired by Eaton Stannard Barrett’s then-popular novel *The Heroine, or Adventures of Cherubina* (1813; Baltimore: J. Robinson, 1832). The hull dimensions are reconstructed from the archaeological recording of the hull. Tonnage based on Lyford, *Western Address Directory*, 464 (146 tons); G. Collins, *The Louisville Directory for the Year 1836* (Louisville: Prentice and Weissinger, 1836), 62 (150 tons); Hall, *Statistics of the West*, 256 (160 tons). The fees charged for wharfage at river ports were based on tonnage, and may have some bearing on the apparent inconsistencies in tonnage listings. Richard W. Oits, *The Louisville Directory for the Year 1832* (Louisville: James Virden, 1832), 127-30; Michel Chevalier, *Society, Manners, and Politics in the United States* (1839; Ithaca, N.Y.: Cornell University Press, 1961), 209.

Missouri Republican, Apr. 14, 1835, Accounts by western steamboat passengers in the 1820s describe the men’s cabin at the after end of the main deck and the women’s cabin located either in the hold or at the after end of the upper deck; see, for example, Frances Trollope, *Domestic Manners of the Americans* (1832; New York: Alfred A. Knopf, 1949), 15; Erik F. Haites, James Mak, and Gary M. Walton, *Western River Transportation: The Era of Early Internal Development, 1810-1860* (Baltimore: The Johns Hopkins University Press, 1975), 31-32; Harriet Martineau, *Retrospect of Western Travel*, 2 vols. (New York: Harper & Brothers, 1838), 2-8; Captain R. G. A. Levinge, *Echoes from the Backwoods; Or, Sketches of Transatlantic Life* (London: Henry Colburn, 1846), 34. A watercolor of the steamboat *Ouisha* on the Red River by Captain Levinge includes a group of men standing on the hurricane deck and shooting at an alligator poised in the foreground of the painting (the painting is in the collections of the Amon Carter Museum in Fort Worth, Texas).


Daily Evening Herald [St. Louis], Oct. 6, 1835; Ringwalt, *Diller Family*, 44. According to Ringwalt, Captain Diller’s nephew Jeremiah was the oldest son of Adam and Barbara (Hoffman) Diller. The family history only says that the younger Jeremiah “was lost on a steamboat on the Ohio River near Louisville, Oct. 4, 1835.” The genealogy misidentifies the location of the mishap, but the fact that Diller perished on the same day that *Heroine* collapsed a flue makes a strong case that he died in the accident.

Louis Rafael Nardini Sr., *My Historic Natchitoches, Louisiana and its Environment…* (Natchitoches, La.: Nardini Publishing, 1963), 155-56. Nardini says of Hord: “The 60 foot long *Kiamichi* became converted to haul cattle, hogs, and poultry alive to the hungry mouths at New Orleans. Because of this, Captain Hord became most popular with the planters and stockmen of the Natchitoches area. Hord was the first to recognize the profit in this kind of freight. He was ridiculed by other steamboat captains, but within the next two years Hord had three steamboats of his own engaged in the transporting of livestock and three steamboats engaged in the hauling of regular freight. He had also cornered the freight market to the plantation stores of the Natchitoches-Alexandria Red River area. Captain P. F. Kimbell said of Hord, ‘He has a messy job, but he is the richest captain traveling the waters of the Red River.’” Nardini does not, unfortunately, cite sources for his brief biography of Hord, but the information he provides fits the general pattern of Hord’s appearances in the newspapers as a steamboat captain. *Rodney* [Louisiana] *Standard*, Feb. 20, 27, 1838;
Commissary General, “Nisewanger & Sullivant Fort Towson 1838,” Contract for Army Subsistence, Record Group 192, NARA, College Park, Maryland.


21 Historical and early-modern maritime archaeologists often discuss the advantages and challenges of research that combines both the documentary and archaeological record. For two particularly useful volumes, see James Deetz, In Small Things Forgotten: The Archaeology of Early American Life (New York: Doubleday, 1977); and Mary C. Beaudry, ed., Documentary Archaeology in the New World (New York: Cambridge University Press, 1988).


24 In late July 1837, nine months before Heroine was snagged, the boat received a newly cast, 812-pound (368 kilogram) paddle wheel flange costing $51.72 from the Jefferson Foundry in Louisville. The cost included three dollars for repairing the wooden pattern for the flange, which was done by adding small reinforcing fillets between the arm pockets to lessen the chance of the pockets breaking. The new casting became Heroine’s starboard inboard paddle wheel flange, and was recovered in pieces in 2006 and 2008. See Jefferson Foundry [Louisville] Account Ledger, 1837-1839, The Filson Historical Society, Louisville (hereafter FHS).


28 Entries in the Jefferson Foundry Journal show that steamboats regularly dropped off “old castings,” broken or worn-out boiler or machinery elements that had a scrap value of one cent per pound (.45 kilogram). For examples of this practice, see Jefferson Foundry [Louisville] Account Ledger, 1837-1839, May 16, 1837 (entries for the steamboats Kentuckian and Passenger), FHS.

29 Otis, Louisville Directory for the Year 1832, 58; Mary F. Cowgill to “Dear Mother,” n.d., Miller Family Papers, FHS.
Few people remember the historic day of May 4, 1869. Six days before the much-celebrated golden-spike ceremony in Promontory, Utah, completed the transcontinental railroad, the Ohio legislature authorized the city of Cincinnati to finance and construct a rail link to the South, in a bid to remain competitive with Louisville, the Queen City’s downriver neighbor. But the meeting of the Union Pacific and Central Pacific overshadowed the birth of the Cincinnati Southern. The builders of the Cincinnati Southern carved a 338-mile line out of the rugged limestone hills of Kentucky and Tennessee with 105 bridges and twenty-seven tunnels, more tunnels than on the entire transcontinental railroad. But they had little to brag about. These constrictive, hand-dug, and mostly unlined passages would saddle the railroad with operational nightmares for nearly a century to come. Trains traveled a combined five miles underground, frequently on curves and grades, under suffocating and slippery conditions, inspiring a nickname among train crews that endures to this day: the Rathole.

Construction, Operational Challenges, and Relocations through 1950
Construction began in earnest on the Cincinnati Southern in 1873 and was completed in stages until the entire route opened for service in 1880. The line cost twenty million dollars to build—pretty inexpensive, at roughly four hundred million in today’s dollars. The Cincinnati, New Orleans & Texas Pacific Railway leased the Cincinnati Southern not long after its completion, but by 1895 the company faced bankruptcy. Southern Railway came to the rescue and brought the CNO&TP into its fold as a subsidiary. However, in an 1896 referendum the citizens of Cincinnati rejected by a few hundred votes a proposal to sell the railroad outright. The city’s ownership survives into the present century, and Cincinnati has recovered its initial investment—and then some—through lease payments.

Southern Railway spent decades confronting the Cincinnati Southern’s myriad operational challenges with a variety of solutions, such as equipping steam locomotives with smoke deflectors and bypassing or daylighting tunnels. By 1920, traffic volume increased to a level that warranted double-tracking many
Grand Banquet, Given by the Citizens of Cincinnati to the Visiting Merchants from the South, at Music Hall, March 18, 1880, in Commemoration of the Completion of the Cincinnati Southern Railway (Cincinnati: Levyau and Co., 1880).

CINCINNATI MUSEUM CENTER

Relocating the tracks at tunnel twenty seven, December 31, 1900, Cincinnati Southern Railway Collection.

CINCINNATI MUSEUM CENTER
sections of the Cincinnati-Chattanooga route. This project began the first serious effort to modernize the line by eliminating tunnels and easing curves and grades. All twenty-seven original tunnels lay in the middle one hundred sixty-mile portion of the line between Wilmore, Kentucky, and Emory Gap, Tennessee, and this segment saw the most intensive revisions. The completion of seventeen and one half miles of double track in Tennessee in 1920 bypassed six tunnels, in addition to four eliminated in the prior two decades through daylighting. One of the bypassed tunnels—number sixteen, near Sunbright, Tennessee—remained in service for southbound traffic only until 1955.

Another major relocation involved the extreme makeover of Kentucky High Bridge, a famous engineering landmark. When completed in 1877, High Bridge, located just south of Wilmore, Kentucky, was considered the highest bridge in the world. The 1,138-foot-long span towered 275 feet over the Kentucky River gorge. In 1911, a stronger and heavier steel bridge replaced the original structure, one of the last major North American bridges constructed of wrought iron. The older bridge carried one track, while its replacement carried two. Double tracking of the new bridge also prompted line relocations between Burgin and Wilmore to ease grades on both sides of the Kentucky River crossing. Most notably, the four-mile relocation between Wilmore and High Bridge bypassed tunnel one, the first bore in the one hundred miles south of Cincinnati.
Kentucky River Bridge, Cincinnati Southern Railway (High Bridge). Half of span number one just before reaching temporary wooden pier, October 25, 1876.
CINCINNATI MUSEUM CENTER

Kentucky River Bridge, Cincinnati Southern Railway (High Bridge), taken from the mouth of Dix River, 1877.
CINCINNATI MUSEUM CENTER
During the Great Depression, the federal government initiated the construction of hydroelectric dams on flood-prone rivers. One such project, the Wolf Creek Dam, was intended to tame the Cumberland River in southern Kentucky. The project’s completion, delayed until after World War II, required the relocation of the low-lying portion of Burnside, Kentucky, at the confluence of the Cumberland River and the South Fork. At Burnside, one of the most famous locations on the entire line, the original single-track Cincinnati Southern pierced through tunnels three and four and emerged from the north bluff of the river, crossing it on a curved trestle. The U.S. Army Corps of Engineers’ project resulted in the elimination of both tunnels and the construction of a new double-track bridge at Burnside, across what would become known as Lake Cumberland. The Somerset, Kentucky, Journal reported that among the two thousand attendees who celebrated the new bridge’s opening on Aug. 3, 1950, was eighty-eight-year-old Mrs. J. W. Sloan. Sloan had witnessed the first train to cross the original Cincinnati Southern bridge at Burnside seventy years earlier, in 1880. Southern Railway’s employee magazine, Southern Railway Ties, noted of the four-mile-long relocation: “Passengers may hardly notice it but the distance between Cincinnati and Chattanooga has been shortened by 755 feet.”

Dieselization, Centralized Traffic Control, and the 1961-63 Relocation Projects

Perhaps no single development helped reduce the Cincinnati Southern’s operational burdens more than the diesel-electric locomotive. In 1940, the Electro-Motive Division of General Motors Corporation tested its four-unit FT demonstrator No. 103 on America’s toughest mainlines, including the Cincinnati Southern. The standard 2-8-2 Mikado was rated at three thousand tons on the outer thirds of the route, but on the mountainous 138-mile middle district between Danville, Kentucky, and Oakdale, Tennessee, the Mikado’s rating fell to 1,750 tons. No. 103 proved itself by hauling four thousand tons the entire distance from Cincinnati to Chattanooga while lopping an hour off the previously six-hour trip between Danville and Oakdale. Pleased Southern Railway executives purchased the demonstrator set from General Motors and the lead locomotive became Southern 6100, now on display at the National Museum of Transportation near St. Louis.

Centralized Traffic Control also helped keep traffic moving over the railroad’s toughest portions. Since the nineteenth century, operators stationed every few miles had manually controlled railroad switches and signals. After World War II, CTC consolidated these tasks in one central office under the direction of a single dispatcher who operated switches and signals electronically, saving time and labor. In 1948, Southern Railway installed CTC on a nineteen-mile section
Cincinnati Southern 2-8-2 locomotive, 1946, Cincinnati Southern Railway Collection.
CINCINNATI MUSEUM CENTER

Cincinnati Southern diesel engine used between Ludlow, Kentucky, and Atlanta, Georgia, in the 1960s, Cincinnati Southern Railway Collection.
CINCINNATI MUSEUM CENTER
between Burnside and Flat Rock, Kentucky, that included eight tunnels and the old Cumberland River crossing, bypassed in 1950. The CTC equipment was housed in the station at Somerset, where it remained until 2001 when CNO&TP dispatchers moved to Knoxville, Tennessee. Southern Railway Ties boasted that the technology would save 5,500 train hours a year on this single-track section and “about 5,900 train stops that had to be made in 1947 in this district will not be made in 1948.”

By 1960, only thirteen of the torturous original twenty seven tunnels remained in service. In spite of dieselization, CTC, and the elimination of half the line’s tunnels, the demands of modern railroading continued to exceed the Cincinnati Southern’s ability to keep pace. Southern Railway became a leader in hauling higher, wider, and heavier loads in specialized freight cars. The Cincinnati Southern served as a pipeline for the auto industry, but the railroad’s restrictive engineering became an increasing obstacle to the development of this traffic. The city of Cincinnati, the railroad’s longtime owner, recognized the magnitude of the problem and issued thirty five million dollars in bonds in 1961 to help launch a dramatic makeover of its unique property, a public-private partnership long before such arrangements became infrastructure buzzwords. Improvements included twenty-five miles of new railroad in six sections to bypass twelve of the thirteen remaining tunnels. The funds paid for three new tunnels with generous clearances, as well as high fills and deep cuts, and an enormous span across the New River in Tennessee. The line’s curvature was cut in half and maximum grades lessened to 1 percent. The ambitious project proved a masterpiece of modern railroad engineering.

When visitors to Kings Mountain, Kentucky, stand on the Highway 501 overpass and gaze into a gigantic mile-long, 140-foot-deep cut, to the left is the brush-covered south portal of quite possibly the worst offender on the old Cincinnati Southern. Generations of train crews identified tunnel two, on a 1 percent grade through porous limestone, as nearly four thousand feet of hell, and few shed any tears over its demise. In contrast to the low-tech hand-labor methods used in the line’s construction a century earlier, the new cuts at Kings Mountain and elsewhere employed a presplit blasting technique by then widely used in modern highway engineering.

Some of the most drastic line changes took place in remote areas. The eight-mile section between Tateville and Greenwood, Kentucky, deep in the heart of the Daniel Boone National Forest, bypassed four tunnels and three viaducts with an equivalent number of cuts and fills. The deepest cut measured one hundred feet; the highest fill, two hundred fifteen feet. Just south of Tateville, the new track perched on a bluff some two hundred feet above the South Fork of the Cumberland River, with the grade tamed to 0.8 percent. Part of the abandoned Cincinnati Southern became a rail-trail, and the first two miles of the Cathy Crockett Memorial Trail
opened in 2000. At Nemo, Tennessee, engineers abandoned three of the original twenty-seven tunnels—numbers twenty two, twenty three, and twenty four—in favor of two much larger new bores. They shifted the course of the Emory River to accommodate a wider curve and a new bridge between the bigger tunnels. The line’s original builders could not have comprehended changes of this scale. On July 10, 1963, the first train to cross the 1,618-foot-long, 307-foot-high New River bridge brought the project to a close at three million dollars under budget, something unheard of in today’s world of “Big Dig”-style multibillion-dollar cost overruns. Southern Railway Ties described the result as a “high, wide and handsome railroad,” equipped to meet modern demands.\(^3\) Of the twenty-seven original tunnels, just one remained in service—number twenty five at Oakdale, Tennessee—enlarged to twenty feet wide and thirty feet high.

**Electrification, Double Stacks, and Double Track, 1970-1999**

Even after its 1963 transformation, the strategic importance of the Cincinnati Southern continued to inspire bold ideas for improvements. During the energy crisis of the early 1970s, Southern Railway gave serious thought to electrifying the CNO&TP—which it called its Kentucky Division—plus its Georgia Division between Chattanooga and Atlanta, a total distance of 481 miles. The newer cuts and tunnels provided ample clearance for the installation of catenary supports and other equipment. However, the high cost—sixty million dollars for a twenty-five thousand-volt A.C. power-distribution system and sixty locomotives—combined with the severe recessions of the mid-1970s and early 1980s, convinced Southern Railway to abandon the plan. Ultimately, the railroad’s generous clearances would find other uses.

Southern Railway became part of Norfolk Southern in 1982, and the CNO&TP assumed an equally vital role for its new operator. In the mid-1980s, solid trains of double-stacked containers began using the line regularly. While other railroads spent many years and millions of dollars to enlarge their century-old tunnels for the taller trains, Southern Railway’s 1963 improvements made the CNO&TP a natural path for such shipments between mid-Atlantic ports and the Midwest. By the mid-1990s, the line funneled more than forty trains a day. With the shared acquisition of Conrail in 1999 by Norfolk Southern and rival CSX poised to unleash yet more traffic on the CNO&TP, another capacity-enhancement project commenced. The 1963 line relocations, all built as single-track sections, had become bottlenecks. As part of a one billion dollar capital-spending plan to prepare for its 58 percent share of Conrail, Norfolk Southern built eight miles of second mainline on the relocation between Tateville and Greenwood, Kentucky. This project created a fifteen-mile stretch of double track between Burnside and Parkers Lake, Kentucky. And not a moment too soon, because Post-Conrail traffic levels swelled to more than fifty trains a day.
Conclusion

The Cincinnati Southern reinvention of 1963 came at a time when many railroads had entered an irreversible state of decline. Competition created by federally subsidized airports and highways severely eroded railroads’ traffic base. Within a decade, Amtrak assumed operations on what was left of the nation’s passenger-train network and several railroads filed for bankruptcy. The shift to a post-industrial economy permanently wiped out many reliable sources of rail traffic. Through this painful period, the Cincinnati Southern stood strong as a vital modern rail link. Other monuments of railroad engineering fell silent or faded into greatly diminished roles. But not this one: the Rathole lives on.

Sources:

- Mike Iczkowski, “As the Rabbit Chases the Beagle up the Rathole,” Trains, Apr. 1976.

Endnotes:

1 Southern Railway Tie, Sept. 1950.
2 Ibid., May 1948.
Review Essay
In Over His Head
William J. Cooper’s Assessment of Lincoln’s Secession Crisis Role
Daniel W. Crofts

A braham Lincoln’s stock never has stood higher. Stephen Spielberg’s film, Lincoln, has gained wide acclaim because it squares with popular yearning. Modern Americans may not agree about much, but they do agree that slavery had to go, and they celebrate the leadership of a strong-willed president who was ready to use fair means or foul to finish the job. Spielberg focuses on the end of Lincoln’s presidency, when the Confederate South had forfeited constitutional safeguards for slavery. William J. Cooper, by contrast, revisits the five months between Lincoln’s election in November 1860 and the start of armed conflict in April 1861, a time when the slave system appeared impregnable. Cooper deplores the incoming president’s unwillingness to accept a Union-saving compromise and substantially exonerates his southern antagonists of responsibility for the resulting Civil War. In short, the movie and the book differ profoundly. But however controversial the book’s basic argument, readers must respect its careful research and appreciate its lucid writing. Cooper, the biographer of Jefferson Davis, is among the most accomplished southern historians of his generation. 1 We Have the War Upon Us is no neo-Confederate polemic, even though it will attract attention from those who cling to the Lost Cause.

Cooper finds Lincoln sadly ill-equipped to manage the situation he confronted as he prepared to take power. He knew too little about the South, especially the Deep South. 2 In Lincoln’s view, most southern whites were “conservative Unionists” (74), not secessionists. He assumed that sensible southerners understood that he and the Republican Party had no design to harm them. Lincoln also had too much respect for the Republican Party’s “most fervent antislavery zealots, the hard-liners” (79). Rather than incur their displeasure, he blocked substantive compromise measures. In so doing, he showed greater concern for maintaining Republican Party unity than keeping the Union intact. “He acted,” Cooper contends, “like a partisan’s partisan, not the leader of a country” (79). And his stance likely involved more than partisanship; Lincoln shared the hard-liners’ “visceral hatred of slavery” (80). He and they hoped that the United States was destined, at least in the long run, to end the use of forced labor.
What the country needed in 1860-61, Cooper thinks, was someone with the broad vision of Henry Clay, someone who could craft a Union-saving compromise and rally behind it a coalition of moderates from both North and South. Lincoln, Cooper argues, was not that person even though he had long admired Clay. Two other candidates stepped forward. Clay’s Kentucky heir, the aging former Whig John J. Crittenden, was the longest-serving member of the U.S. Senate. But his famed Crittenden Compromise foundered because Lincoln passed word to his Republican allies not to accept it. Lincoln also stymied his incoming secretary of state, William H. Seward, who understood sooner and better than Lincoln how dangerous the situation in the South had become. Seward tried to reach out to southern anti-secessionists, but Lincoln rendered Seward powerless to stop the disunion juggernaut.

What should readers make of Cooper’s bold reinterpretation of the secession crisis? Plainly, his preference for compromise runs against modern grain. Americans today know that the Civil War ended slavery and saved the Union. If it accomplished such worthwhile objectives, as almost all now assume, then any compromise would have been futile and self-defeating. Today, we calculate that the outcome of the war justified its huge costs—far more lives lost than in any other American war. And we satisfy ourselves that the war was somehow inevitable, that it involved irreconcilables that never could have been compromised.

At the heart of Cooper’s book lies the assumption that the Deep South’s top men, led by Mississippi Senator Jefferson Davis and Georgia Senator Robert Toombs, could and would have pulled their states back from the precipice had Republicans promptly accepted the Crittenden Compromise. Cooper therefore finds those who favored Crittenden’s handiwork wise and farsighted, and he dismisses those who opposed it as obtuse and even unpatriotic. But a host of questions arise.

The evidence strongly suggests that Davis and his friends could hardly have deflected the secession rampage, even had they been disposed to do so. They had unleashed forces they could no longer control. Throughout the summer and fall, they had “predicted ruin for the South should the Republicans win” (48), thereby fueling the uproar that rabid Deep South extremists fanned into a raging fire. Soon many supposedly responsible Deep South leaders embraced the disunion cause. Georgia’s Howell Cobb was a notable case in point; the U.S. secretary of the treasury suddenly resigned and made the nonsensical claim that the Republican Party was committed to “immediate and unconditional abolition in every State.” Increasingly, secessionists insisted that the South could not turn back. “It is a movement not of the leaders, but of the masses whom the leaders could not control if they would,” wrote a Mississippi observer; the only possible outcome was “complete separation.” “We spit upon every plan to compromise,” roared one newspaper editor. “A Southern man who would now offer to compromise with the Northern States is a traitor to the South.”
The Crittenden Compromise also seems an unlikely panacea because it trampled Republican sensibilities and created an ominous precedent that their party must “apologize and beg forgiveness” (in Lincoln's tart phrase) for having carried the presidential election. It was weighted down with conditions that Republicans never could accept—most notably, the provision that gave federal protection to slavery in all territories south of 36° 30', now held or “hereafter acquired.” This was no compromise, historian Don E. Fehrenbacher argued, but rather “a semi-surrender to southern demands.” 4 And little evidence supports the notion that its Deep South advocates did expect Republicans to accept it. Cooper, by contrast, thinks Republicans blindly spurned Crittenden. Their “professed distress” about “hereafter acquired” served only as a smokescreen because they really opposed all compromise (100-101). With some justice, he dismisses Republican hardliners as narrow-minded sectionalists who “gave no legitimacy to southern concerns” (61). But instead of saying the same or worse about southern hardliners, he appears to give them a free pass.

By focusing on the Crittenden Compromise, Cooper marginalizes other measures that did attract some Republican support, and in one key instance, moderate Republican sponsorship. Once Crittenden found his original proposal anathema to Republicans, the Kentucky senator devised an alternative plan that watered down the demand for protection of slavery in territories south of 36° 30’ and made no mention of “hereafter acquired.” As Cooper notes, some Republicans might have found this so-called Border State Plan acceptable, but Lincoln would not back away from the party’s overt opposition to the spread of slavery. Lincoln did, however, ultimately agree to one notable concession: a constitutional amendment crafted by Republican moderates to forbid interference with slavery in the states where it already existed. This was the polar opposite of the amendment for which Lincoln labored in the Spielberg movie. It “now seems an appallingly greater concession to the South,” wrote Fehrenbacher, than anything having to do with the territories. But in early 1861 nobody dared to challenge the conventional wisdom that the states alone had exclusive jurisdiction over slavery. The constitutional amendment gathered the requisite two-thirds majorities in both houses of Congress just before the presidential inauguration, and Lincoln explicitly accepted it in his inaugural address. However, neither the stillborn Border State Plan nor the prospective constitutional amendment slowed the Deep South’s drive for independence. 5

Notwithstanding Lincoln’s acceptance of the constitutional amendment, Cooper depicts the Republican Party as committed to “the eventual destruction of slavery” (148). By so doing, he tends to validate the case for secession. But Cooper never explains whether or how restricting its expansion would actually have hurt slavery. He knows that Lincoln and the Republican Party always refused to touch slavery in the states where it already existed; they relied upon
the voluntary action of white southerners to bring about slavery’s “ultimate extinction,” perhaps a century hence (81, 148). Rather than seeing the quarrel about slavery in the territories as a symbolic proxy for disagreements forbidden by the Constitution about slavery in the states, Cooper endorses the secessionist view that stopping the expansion of slavery would indeed have been the first step to getting rid of it. He thereby blurs the distinction between the theatrical and the tangible. Republican politicians did want their hard-line constituents to believe that “bottling it [slavery] up would solve the problem,” but they did not foresee this solution (if such it was) taking place during their lifetimes (148).

Cooper will easily repel some of the incoming fire headed in his direction. Lincoln’s cheerleaders—those who applaud every aspect of the sixteenth president’s life—will surely take offense. Getting right with Lincoln has been a popular pastime for the past century and a half, never more than today. Harold Holzer, for example, recently published a stout volume that focuses entirely on Lincoln in late 1860 and early 1861 (Cooper observes, 287n4, that Holzer finds Lincoln “omniscient”). But Holzer’s tunnel vision deprives him of essential perspective. Cooper knows more than Holzer and other lesser Lincoln promoters about the broader situation Lincoln confronted as he prepared to take power. Indeed, We Have the War Upon Us provides the most wide-ranging account available of developments in Washington during the secession winter. It covers “North and South, Republican and Democrat, sectional radicals and sectional conservatives” (xv).

Cooper claims to share common ground with three scholars he identifies as the “closest students” of the Republican Party during the secession crisis: David M. Potter, Patrick Sowle, and Russell McClintock (287n103). In his classic 1942 account, Lincoln and His Party in the Secession Crisis, Potter described Lincoln as “a man of great undeveloped capacities and narrowly limited background…far more fit to become than to be President.” Having “grossly underestimated the extent of the crisis,” he “groped and blundered” as he began to realize that the seceding states were in earnest. Until war was upon him, he believed that he could preserve both peace and the Union. Potter also wrote a great deal about Seward, whom he depicted as Lincoln’s “agent” in the ill-fated quest to keep the peace.

McClintock’s 2008 study, Lincoln and the Decision for War, in some ways echoes Potter and also resurrects Sowle’s important Ph.D. thesis, completed in 1963, which describes sympathetically Seward’s efforts to “save the Union both from disunion and war.” But McClintock’s judicious and evenhanded assessment of the principals sets him apart. Cooper finds Lincoln a bumbling amateur cum ideologue, plainly in over his head, whereas McClintock thinks that Lincoln, even as he faced a steep learning curve, came to realize that the Deep South never would voluntarily return to the Union and wisely kept his party together as the crisis spiraled toward war. McClintock’s Seward dreaded war and feared that it
could make disunion permanent. He hoped that careful management and conciliatory gestures—notably, relinquishing Fort Sumter—might prevent any fighting, keep the Upper South in the Union, and compel the Deep South to reconsider its rash course. Most of all, McClintock does not leave the impression that Republicans bore sole responsibility for quieting the crisis.

Compared to Cooper, both Potter and McClintock recognize greater moral complexity. Cooper's moral message is simple: war is bad and best avoided. Potter, however, always emphasized moral dilemmas—free state residents often disliked slavery but cherished "a Constitution and a Union which protected it," and they disliked war but were unwilling to cave in to southern demands. McClintock's assessment of Lincoln and Seward likewise captures the excruciating quandaries facing those who wanted both peace and Union. The intrinsic unfairness of slavery weighed on Lincoln—here the Spielberg movie seems pitch perfect—long before he could do anything about it. Potter wrote that Lincoln recognized a "human affinity" with slaves and considered the denial of their equality a violation of his core values.9

Those with a serious interest in Lincoln and the crisis that led to war must read Cooper, though they are likely to judge his book provocative rather than convincing. The most spectacular leadership failure in 1860-61 certainly was not Lincoln's. The leading men in the Deep South have a far better claim to that dubious distinction. Their seven states, where one third of white southerners held almost two thirds of American slaves, decided to separate from the Union rather than accept Lincoln as president. They ignored the danger of war and asserted that Confederate independence would assure the long-term safety of the slave system. Never in American history did political leaders make such a disastrous miscalculation. Secession set in motion the spiral of events that destroyed slavery and allowed Lincoln to become—as Spielberg has so memorably reminded us—the Great Emancipator.

2 Cooper minimizes Lincoln's ties to Georgia's Alexander Stephens (75-76). But Stephens might have disagreed with Cooper. When asked by an associate for his impressions of Lincoln, Stephens wrote: "I know the man well. He is not a bad man. He will make as good a President as Fillmore did and better too in my opinion. He has a great deal more practical common sense." Stephens to J. Henly Smith, July 10, 1860, in *The Correspondence of Robert Toombs, Alexander H. Stephens, and Howell Cobb*, Ulrich B. Phillips, ed., Annual Report of the American Historical Association for the Year 1911, 2 vols. (Washington: American Historical Association, 1913), 2:487.


Book Reviews

The Old South’s Modern Worlds:
Slavery, Region, and Nation in the Age of Progress
L. Diane Barnes, Brian Schoen, and Frank Towers, eds.

Until fairly recently, historians seldom portrayed the Old South and modernity on speaking terms. Long seen as the backward, ugly stepsister of the “modern” North, historians have uniformly portrayed the South as economically retrograde and politically reactionary. Within the past couple of decades, however, this portrait of the Old South has undergone a series of strong and increasingly convincing challenges, first by the so-called cliometricians of the 1970s and 1980s and more recently by a growing body of discerning and insightful historical work. Rather than assuming the region to have been the antithesis of modernity, the cumulative impact of this growing mountain of research has placed the Old South both in and of the modern world. The seventeen essays comprising The Old South’s Modern Worlds advance this new and exciting interpretation to the cutting edge of historical scholarship. Contributors include an array of both established and rising scholars who cover a remarkably broad spectrum of subject matter, from the mainstream southern fare of economics, politics, and religion to less studied aspects of the Old South like Indian culture and even planter sexuality. Taken as a whole, these articles combine to create a compelling work of insight and significance.

Despite its wide ranging focus, however, two themes explicitly or implicitly run throughout The Old South’s Modern Worlds. First, the contributors have jettisoned rigid definitions of modernity for more fluid alternatives that assign southerners themselves a role in determining the conditions of the debate. In their excellent introduction, editors L. Diane Barnes, Brian Schoen, and Frank Towers summarize the arguments over the process and manifestations of modernization in Old South historiography. They posit that modernity is best understood as “both a matter of cultural outlook and material achievement” (10). While similar in many ways
to the North, Great Britain, and elsewhere, the South nevertheless adapted modernity on its own terms and under its own circumstances. Deviations from the northern model were not simply signs of the South's backward, premodern nature, as contemporary critics and generations of historians have argued. Rather, they demonstrate how the Old South developed its own peculiar manifestations of modernity. This uniqueness appeared most prominently in southern social and political attitudes, but also shaped the region's economy. Southerners saw themselves as modern in their actions and attitudes, even if their critics did not.

The second recurring theme is that slavery, far from a hindrance, frequently proved the catalyst behind the South's embrace of modernity. Slavery's expansion, both geographically and into new fields of labor, spurred industry, transportation, and commerce. The slave trade created interregional markets and spawned innovative financial arrangements and communication networks. Slaves themselves even embraced modernity, developing their own internal economy that encouraged entrepreneurship and proffered material rewards to those most adept at negotiating their increasingly complex economic landscape. Southern apologists, looking at the world around them, saw slavery as the superior benchmark that placed their region economically and morally in the vanguard of global civilization. As contributor Matthew Mason observes, southerners deemed slavery to be “the bloom, not the thorn, in the garden of progress” (55).

Contributors to The Old South's Modern World employ a variety of research strategies. Several take a comparative or global approach to their respective topics. Like most essay collections, some of the contributions fit the overall theme of the volume better than others. Charles Irons's analysis of white and black missionaries in the Old South and Craig Thompson Friend's novel discussion of the evolution and ritual of planter patriarchy both make fascinating reading, but do not quite jibe with the overall theme of modernity as well as the other essays. Unsurprisingly, the economic contributions fit most seamlessly into the modernity paradigm, especially Larry Hudson's examination of slaves' internal economy, Steven Deyle on the slave trade, William G. Thomas on southern railroads, and Diane Barnes on industrial slavery. James L. Huston provides a provocative “what if” entry on the future of slavery in the border states if the Civil War had not taken place. To counterpoise the majority opinion of his fellow contributors, Marc Egnal makes a spirited effort to resurrect the South-as-premodern paradigm of Eugene Genovese, but with rather listless results.

Perhaps the highlight of the volume comes at the end, with Michael O'Brien's witty and thoughtful conclusion. For O'Brien, the most compelling implication of these collected essays is that modernity mattered in the Old South. For generations historians have identified modern elements in the region—industry, railroads, banks, telegraphs—but generally considered them as marginal elements of southern society. As O'Brien rightly observes, the essayists here move us to a better understanding that “those elements of the Southern world that were not plantations” had weight and influence on the form and function of the Old South. The Old South's Modern Worlds is, in short, an important book.

Tom Downey
Papers of Thomas Jefferson,
Princeton University
For generations of Louisvillians, George Keats has served as a place marker for his more famous sibling: literally, his “place” is “marked” by an extravagant Victorian burial monument in section O, lot 73, of Cave Hill Cemetery. Supported by extensive archival research, Denise Gigante’s *The Keats Brothers* recovers George as a remarkable individual in his own right. Sharing the same orphaned and impoverished background as his brother John, the British Romantic poet, George set off for the western territories with his teenaged wife Georgiana, where he twice made and lost his fortune in the fledgling town of Louisville, Kentucky. George Keats receives his just due in this narrative, one that deftly weaves together the threads of the brothers’ alternatively different and fascinating lives, of “Cockney Pioneer” and “Cockney Poet.”

Half a dozen biographies and the recent Hollywood film, *Bright Star*, have depicted John Keats in the late summer and fall of 1818 as deeply absorbed in his ill-fated love affair with Fanny Brawne, nursing his dying brother Tom, and struggling to compose his long poem *Hyperion*. Gigante’s narrative reminds readers that these events occurred in a larger context of western expansion that shaped the life choices of John’s brother George after he read Morris Birkbeck’s seductive 1818 account of the West, *Notes on a Journey in America*. In an effort to recruit emigrants for the “English Prairie” settlement in the Illinois Territory, Birkbeck portrayed a land of milk and honey. George and Georgiana left in search of this utopia, sailing to Philadelphia and traveling overland to Pittsburgh, where they embarked on what must have felt like a journey into the sublime. On their Ohio River keelboat, “they floated tranquilly on, as through a succession of fairy lakes, sometimes in the shadow of the wooded bluff, sometimes by the side of side-spread meadows, or beneath the graceful overhanging branches of the cotton-wood and sycamore.” The leisurely pace of the flatboat allowed for an “occasional scenic stroll,” after one of which Georgiana returned to the boat, her “silk dress and parlour slippers…thoroughly torn to pieces” (226). This image, referenced more than once by Gigante, serves as an omen of the hard life awaiting the young couple in the West.
Gigante suggests that George and Georgiana’s arrival at the Falls of the Ohio signified for them “the Fall: from Eden into a rude and rugged reality” (268). To them, “the flatlands surrounding Louisville seemed desolate,” and in town itself, “plain, undorned houses of brick and of wood sat on dirt, without grass. The streets were washed only when the rain came down, and then the showers turned the dust back into mud. The inhabitants seemed determined to cut down every tree they could find, and in the evenings they swept the wood shavings into the street and set fire to them, spreading more dust. It was ‘a harsh fate,’ John commiserated, ‘to be settled among such a people’” (344-45). George and his wife settled in sight of the Falls and within a few years had started a family, a garden, and the building of a lumber mill. But before he completed the mill, George had lost his investment in his friend John James Audubon’s steamboat, and the American economy had collapsed in the Panic of 1819. Seeing no other way out of his financial distress, George traveled back to England in 1820 for funds.

Gigante’s description of George’s return to England exhibits her technique of juxtaposition at its most effective. When George encountered his favorite brother, he was “pennyless or more so,” felt responsible for a wife and newborn daughter, and considered himself, in his words, “more miserably distressed than John.” But he did not complain because John had “troubles enough” with his own finances (320). Within days of George’s departure from London, John discovered on his pillow the arterial blood he recognized as his “death-warrant.” After the brothers’ final separation, John sailed to Naples and traveled the road to Rome, where he spent his final months. George returned to Louisville, where “by dint of steady application and hard work” he rebuilt his fortune at “George Keats & Company’s Steam Planeing Grooving, and Tongueing Mill.” As Louisville came into its own, George emerged as one of its wealthiest citizens, successful in business and active in civic and cultural life. He hosted meetings of the Louisville Philosophical Society; served on the Ohio River Bridge Commission, helping plan the first bridge over the Ohio; sat on the board of the Lexington and Ohio Railroad Company; won election to Louisville’s City Council and helped draft the charter for the city; and served as trustee of Louisville College, treasurer of the Kentucky Historical Society, curator of the Louisville Lyceum, and chairman of the board of the Harlan Museum Company. By the late 1830s, he moved his family (Georgiana and eight children) into a mansion that locals labeled the “Englishman’s Palace” on Walnut Street. John died in Rome in 1821, but George lived until 1841, surviving a second bankruptcy. Georgiana outlived George by nearly forty years and remarried John Jeffrey. Yet in her obituary in the Louisville Courier-Journal she was still “remembered by many of our citizens as Mrs. George Keats” (406).

Reviewer Christopher Benfey sees “nothing”—“beyond his famous brother”—to set George apart from the “thousands of other immigrants” to the West (New York Times, October 14, 2011). Yet as Gigante makes abundantly clear, George was distinguished not only by his civic and cultural engagement, but also by his acute intelligence, inquiring mind, and tremendous sense of tenacity against apparently overwhelming odds. These attributes likely made George—to an extent beyond anyone in his brother’s family and acquaintance—the recipient of much of John Keats’s most revealing and memorable correspondence.
Lessons in Likeness: Portrait Painters in Kentucky and the Ohio River Valley, 1802-1920
Estill Curtis Pennington

Museum curators asked to authenticate early American portraits have a particularly challenging task. In the early nineteenth century a great many itinerant limners roamed the country painting prosperous citizens, but they often left their work unsigned, making it difficult to identify the artist. Moreover, scholarship on this subject remains slim and much of the best research took place in the 1920s. Thus, Estill Curtis Pennington’s Lessons in Likeness, a study of portrait painters in Kentucky and the Ohio River Valley, is a pleasure to discover. For the most part, the book records the remarkable collection of The Filson Historical Society, whose approximately four hundred portraits represents the single best collection of its type from the region. Helpfully, Pennington’s study also reproduces key works located elsewhere, including Marquis Calmes IV by Jacob Frymire (1770-1820) in the Chicago History Museum, the earliest documented portrait painted in Kentucky. Thus, while Lessons in Likeness is not definitive, it provides a comprehensive survey of the portraiture of the region, both by major artists and obscure figures.

Kentucky played a key role in the settlement of the western frontier, a development closely associated with the folk hero Daniel Boone, who in 1775 established Boonesborough, the first significant white settlement west of the Appalachians. Disastrous land speculations pushed Boone out of the state by 1799, seven years before Frymire painted the portrait of the Marquis de Calmes, but his famous exploits brought Chester Harding to Missouri in 1820 to paint Boone’s portrait (now in the Massachusetts Historical Society). America’s first great painter from west of the Mississippi, George Caleb Bingham, just a child at the time, witnessed Harding execute this painting, handing brushes to Harding while he worked, and drawing inspiration to become a painter. Some of the most interesting paintings in this book belong to this frontier period. The Filson owns one of Harding’s replicas of the Boone portrait, as well as Bingham’s exceptionally good and broodingly romantic portrait of Samuel Bullitt Churchill, a Jefferson County, Kentucky, lawyer who later moved to St. Louis. Also notable, are two striking likenesses by John James Audubon, who owed his artistic career to his...
experiences in the state. The 1819 bankruptcy of his Henderson mill following an economic panic turned him from businessman to artist, and led him to start serious work on his watercolors of American birds.

The story of one of the earliest likenesses in the book, Samuel H. Dearborn's portrait of James Love as a child, offers an extraordinary instance of frontier violence. In April 1811, while staying at the boarding house of the sitter's mother, Elizabeth Young Love, Dearborn got in an argument with guest Isaac Robinson and stabbed him to death, after which he fled to Boston and changed his name. Dearborn died of unknown causes in 1852, having literally gotten away with murder. Oddly, Dearborn's likeness of James Love provides little hint of his murderous inclinations. While the profile view gives the likeness the flat quality associated with folk art, the execution is unusually sensitive and delicate. Like Dearborn, many of Kentucky's early portraitists were itinerants, but by the early nineteenth century the state produced a native son of national distinction, Matthew Harris Jouett (1788-1827). While the Harrodsburg-born Jouett spent much of his career working in Philadelphia and Boston, he often returned to Kentucky to execute portraits and died in Lexington. He maintained close ties with celebrated Kentucky politician Henry Clay, whose portrait he painted, and from whom he once rented a studio. Portraits by Jouett, as well as by contemporaries Washington Bogart Cooper (1802-1889), Chester Harding (1792-1866), James Reid Lambdin (1807-1899), Thomas Leclaire (1818-1882), and John Neagle (1796-1865) reveal Kentucky's rapid transformation from a frontier outpost to a bastion of domestic respectability.

During the Civil War years, Kentucky played a key role as a border state and transitional zone between the cultures of North and South. While the state did not join the Confederacy, two of the most memorable nineteenth-century images of slavery have associations with Kentucky. Eastman Johnson's 1859 Negro Life at the South, also known as Old Kentucky Home (New York Historical Society), is arguably the most significant American painting of slave life before the Civil War. It depicts a white woman visiting a slave family in their dilapidated homestead that appears to house some mixed-race relatives. Thomas Satterwhite Noble's 1868 The Price of Blood (Morris Museum of Art, Augusta, Georgia), is among the most shocking antislavery paintings produced after the war ended. It shows a white father, seated beside a table laden with coins, arranging the sale of his mixed-race son. Curiously, Noble spent three years as a military engineer in the Confederate Army and reconciling the antislavery intensity of this artistic work with his wartime service remains difficult. The Civil War also stands as a rough marker that separates early Kentucky portraitists from those of the later nineteenth century, who painted more loosely and more often studied abroad. The portrait work of the Lexington-born Noble, for example, reveals the increasing influence of French painting, with its freer brushwork and execution. He studied for three years with Thomas Couture, as did several other fine Kentucky portrait painters including George Healy (1813-1894) and Victor Nehlig (1830-1909). Frank Duveneck, perhaps the most notable nineteenth century Kentucky-born painter, pursued most of his distinguished professional career in locales such as Munich and Cincinnati.

A surprising number of major American painters passed through Kentucky or had strong associations with the state. But as Duveneck's career suggests, identifying what constitutes a Kentucky portraitist remains difficult. Were such artists born in Kentucky, did they reside in the state for a significant period, or did they pass
through and execute some notable work? Should the portraits of prominent Kentuckians painted elsewhere count? Pennington attempts to resolve some of these problems by dividing his book into two parts, an initial essay on Kentucky portraiture, followed by a series of catalogue essays organized by artist. Unfortunately, this organization leads to some confusion as the author discusses many notable works held by The Filson in the essay rather than as entries, and the essays include a few pieces from outside the state, such as Duveneck’s striking portrait of painter John White Alexander. Pennington might have taken more care in defining his categories and deciding which artists should be considered part of Kentucky history. But much of the charm of this book comes from the fact that the author does not pigeonhole figures into rigid categories but instead takes a sweeping view of the topic. Some of the book's most interesting material highlights the careers of folk painters so obscure their birth or death dates are unknown, artists such as Charles V. Bond (c. 1826-after 1864), Reson B. Crafft (c. 1809-after 1877), Alonzo Douglass (c. 1810-1886), Edwin F. Goddard (c. 1815-1855), and William Henry Redin Jr. (1824-after 1872). Indeed, among the book’s greatest delights is that it allows readers to discover such obscure artists whose work finds no place in more disciplined and conventional histories.

Henry Adams
Case Western Reserve University

**Arab and Jewish Women in Kentucky:**
*Stories of Accommodation and Audacity*
Nora Rose Moosnick

In *Arab and Jewish Women in Kentucky*, Nora Rose Moosnick explores the lives of Arab and Jewish women living, working, and raising families in Kentucky, from the early twentieth century to the present day. Although many think of Arabs and Jews as strikingly different, Moosnick illuminates surprising parallels between them as a contribution to “local and national efforts to create connections between Arabs and Jews in the face of the tensions that bedevil them, even in Kentucky” (14). To accomplish this, she uses oral history interviews to understand the struggles, triumphs, and values shared by these women.

Moosnick considers the many components involved in the forging of new identities by these women, whether they are new immigrants or the American-born offspring of Arabs and Jews born in the Middle East or Europe. Within these two groups, individual identities are shaped by a nearly endless number of factors. Some Arabs living in Kentucky are Christian, which creates a different identity than among Muslim Arabs in the state. Some Kentucky-dwelling Jews whose stories the author highlights prefer to identify as Russian, although others identify simply as Jewish. Regardless, all of these women strive to find a balance between maintaining their Old World ethnic, cultural, and religious identities while at the same time creating new identities that include such Americanisms as rooting for University of Kentucky basketball. For
the author’s informants, finding this balance has proven a lifelong journey. In considering these identities, Moosnick does an admirable job of focusing on the women’s differences, while still highlighting their remarkable similarities in experience and values.

All of the women highlighted in Moosnick’s book are strong, independent, and take responsibility for creating their own place in their state and communities. Some have even achieved recognition and importance globally, one as a fashion expert, and another as an employee of the U.S. State Department. Most of these women own their own businesses or play vital roles in the success of their family businesses. Most are politically passionate and active, whether publicly or privately, and take seriously their roles as citizens of the U.S. and Kentucky. Many of

the author’s subjects have stepped boldly outside the realm of what many of their contemporaries consider the social norm. Several were full-time working mothers during the 1950s and 1960s, while others never married, focusing instead on their careers and perhaps becoming a second mother to nieces and nephews. One subject, former Lexington mayor and Christian Arab Teresa Isaac, actively reaches out to Arab Muslims, a highly unusual practice among women of her background. In all cases, Moosnick shows clearly the incredible courage and—as the title states—the audacity of these women to better themselves, their communities, and the lives of their families, all while holding on to their cultural traditions.

In Arab and Jewish Women in Kentucky, Moosnick proves that Arabs and Jews living in America are not as different as many Kentuckians might think. Her interviews with immigrant women and with surviving relatives reveal that though the details of these women’s lives differ, their overarching stories have many similarities. Though from various parts of the world, these women share Middle Eastern roots and have tried to find ways to merge their past with their present and future. In a departure from other works of oral history, Moosnick includes portions of her own story, and makes her grandmother one of the subjects of the final chapter. Moosnick approaches these women’s lives not as an outsider trying to prove similarities between two groups, but rather as a Jewish woman born and raised in Kentucky who grew up watching older women living this story. She also has lived it, making this her story. The personal note lends an air of authority and authenticity to this study that might otherwise be lacking.

Still, Moosnick’s proximity to her subject sometimes means that she fails to approach
these women with a critical eye. Moosnick’s unrelenting positivity leaves her unable to convey the richness of the lived experiences of her subjects. For most immigrants, the process of balancing new and traditional identities involved both triumph and personal failure, but Moosnick’s portrait offers readers little glimpse of the personal struggles and failings that in combination with success shaped the lives of these immigrant women. In addition, the interview excerpts Moosnick chooses are sometimes stilted and hard to follow, even for a work of oral history. Nonetheless, this book should appeal to anyone interested in women’s studies, or the history of religion, race, and ethnicity in the United States.

Kathleen S. Reynolds
Southeast Missouri State University
Dead Sea Scrolls
_Life and Faith in Ancient Times_

*See it before it closes April 14!*

Discover a real connection to the past with the Dead Sea Scrolls Exhibition, only at Cincinnati Museum Center. Explore these real, ancient, handwritten texts of the words that have shaped the Western World. Visitors have described it as “breathtaking,” “a must see! Amazing,” and “ancient history worth knowing about.” Limited engagement; exhibit closes April 14. Don’t miss out! More information at [www.cincymuseum.org](http://www.cincymuseum.org) or call (513) 287-7001.
The Kentucky Historical Society (KHS) scholarly research fellowship program promotes research on all aspects of Kentucky history. Short-term fellowships are designed to assist researchers with travel and living expenses while using the KHS research collections.

APPLICATION DEADLINES ARE MARCH 15 AND NOVEMBER 1.

For more information about the scholarly research fellowship program, visit: www.history.ky.gov/fellowships
ANNOUNCEMENTS

The Gertrude Polk Brown Speaker

Rick Atkinson
Tuesday, June 4, 2013 • 6:30 p.m.
Presented by The Filson Historical Society

THE
GUNS
AT
LAST
LIGHT

THE WAR IN WESTERN EUROPE, 1944-1945
VOLUME THREE OF THE LIBERATION TRILOGY

WINNER OF THE PULITZER PRIZE

RICK ATKINSON
Author of An Army at Dawn and The Day of Battle

For more details and tickets
(502) 635-5083 | www.filsonhistorical.org