

# Transforming New Orleans *and* Its Environs

CENTURIES OF CHANGE

Craig E. Colten, editor

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George A. Miller

4. Historical Perspective on Creole, Lower, and the  
Mississippi River

Donald W. Davis

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## Forests and Other River Perils

ON MARCH 24, 1817, a riverboat pilot named Henry Shreve boarded his steamboat, the *Washington*, at New Orleans's waterfront.<sup>1</sup> Shreve rushed as he prepared his vessel for a long voyage, fearful his departure might be blocked by members of the so-called Fulton group, intent as they were on protecting their exclusive right to power steamboats on the lower Mississippi.<sup>2</sup> After arriving at the *Washington*, Shreve ordered his crew to fire the vessel's boilers, and then he steered his craft into the Mississippi's current, bound for Louisville, Kentucky. The pilot kept a log of the trip, noting that the voyage took only twenty-four days. In less than one month the steamboat completed the journey from Louisiana to Kentucky, running against the waters of the Mississippi and Ohio Rivers and into history.<sup>3</sup>

To many observers it seemed that steamboats had finally mastered the mercurial rivers. In the wake of the journey, Morris Birkbeck, a traveler making the grand tour of the United States, noted the potential significance of steam on the major rivers of the Mississippi system. "The upward navigation of these streams is already coming under the controul of steam," he explained, "an invention which promises to be of incalculable importance to this new world."<sup>4</sup> For his role in "conquering the rivers," Shreve became one of the West's great antebellum heroes, a man revered for imposing order on the mighty Mississippi system, both as an innovator with steam

technology and later as a maverick in clearing dangerous snags from the western rivers.<sup>5</sup>

The voyage of the *Washington* changed not only Shreve's life but, as Birkbeck guessed, would have profound consequences for the whole of the Mississippi valley. Perhaps most important for this forum, in time Shreve's journey proved to be a crucial event in the history of the human transformation of the lower Mississippi. To this point in this volume, the contributors' chapters have demonstrated that the process of shaping and reshaping the environment of the lower Mississippi had been ongoing for centuries when Shreve left New Orleans aboard the *Washington* in 1817. Tristram Kidder and Christopher Morris have illustrated ways in which European settlers and Native Americans alike engineered landscapes for human use in the lower Mississippi valley. Whether in creating edge habitats that fostered hunting, in building levees that harnessed the Mississippi's floodwaters, or in clearing land for agricultural production, human inhabitants of the lower valley attempted to improve their environment, even to control nature. In this light, Shreve's journey stands as one point on a continuum, another step in a long-standing series of human endeavors in the valley.

And yet, the journey of the *Washington* was different from previous transformations of the lower Mississippi. What separated Shreve's accomplishment was its role in launching a new era in which the pace and scale of changes wrought by people in the valley's environment accelerated faster and grew more pervasive than ever before. Shreve's journey aboard the *Washington* helped launch the era of steam on the Mississippi system, a time in which the valley's inhabitants began using industrial technologies in their efforts to mold the world around them.

This chapter will explore the role steamboats played in the human transformation of the lower Mississippi, focusing on three issues: Shreve's role in bringing steamboats to the western rivers, an exploration of the reactions people had when steamboats failed to control the Mississippi system, and an examination of Shreve's actions late in his career. This chapter offers readers a critical perspective on the ways in which steamboats and Shreve transformed the lower Mississippi's environment, moving away from hagiographic portraits typical of the famed riverboat man and romantic viewpoints that often characterize explorations of the steamboats themselves.

#### THE ADVENT OF STEAM ON THE MISSISSIPPI SYSTEM

From the beginning of the European conquest of the interior of North America visionaries claimed that the Mississippi valley's layout promised riches for settlers in the region, especially those who developed land flanking the lower Mississippi River. The river system, these boosters observed, provided a network of watery paths on which traders throughout the valley would someday float goods to a market located near the entrance to the Gulf of Mexico. Their reasoning was simple and sound: in a period with no paved roads, no rails, no air travel—in short, no technological innovations circumventing the inconveniences of the valley's geography—natural trade routes, and rivers particularly, were the region's commercial highways.

The Mississippi system provided the most magnificent highway system in the world, with over 15,000 miles of tributaries and trunk streams snaking across much of the continent. Early readers of the valley's geography recognized that control of the lower river meant control of the region's trade. One location loomed above others as the key to dominating the river system: the site of New Orleans. After visiting the colony of Louisiana in 1722 and contemplating the Crescent City's natural advantages, Pierre François Xavier Charlevoix wrote, "Rome and Paris had not such considerable beginnings, were not built under such happy auspices, and their founders met not with those advantages on the Seine and the Tiber, which we have found on the Mississippi, in comparison of which, these two rivers are no more than brooks." He went on to predict that "this wild and desert place, at present almost entirely covered over with canes and trees, shall one day, and perhaps that day is not very far off, become the capital of a large and rich colony."<sup>6</sup> Charlevoix was an optimist who based his opinions on a felicitous interpretation of New Orleans's location in the valley.

Predictions such as Charlevoix's hinged on reading the valley's watercourses as uniformly benevolent and ignoring many of the obstacles the region's geography placed on trade and travel—constraints of space and time.<sup>7</sup> For example, Charlevoix's view begged a nagging question: how would traders return upstream against the rivers' currents after bringing their wares to market in New Orleans? In the years prior to the advent of steamboats, the journey from the Crescent City to the upper valley was grueling and dangerous, demanding between three and six months of hard labor in dangerous and foreboding locales.<sup>8</sup> Over land the trail passed through territory

that often seemed impassable because of environmental obstacles or the presence of Native Americans hostile to European traders.

The trip upstream via the Mississippi system was usually preferable but could be accomplished only in one of several exhausting ways. In shallow water, riverboat men set long poles in the river's bottom while standing in the bow of their boats and then walked the length of their craft, pushing them along like Venetian gondoliers. In the calmest river eddies oars could be used, and sometimes sails served best in ideal wind and river conditions. Most often, however, cordelling sufficed as the means of defying the river's current. The cordelle was a heavy rope, sometimes nearly a quarter mile long, fastened to the bow of a riverboat. To use it, the best swimmer among the boat's crew swam ashore with the cordelle clamped in his teeth, like a well-trained retriever. Following in his wake came his mates; once on shore they began a months-long game of tug-of-war with the river.<sup>9</sup> Thus, for the whole of the eighteenth century and the beginning of the nineteenth, although the Mississippi system held out great promise for the people of New Orleans, the rivers' currents stood between the city and what many observers perceived as its destiny as the seat of a vast inland commercial empire.

Only in the years following the Louisiana Purchase did boats powered by steam promise a solution to the problem of the current on the Mississippi system.<sup>10</sup> In 1811, convinced that an unproven, relatively new technology could vault New Orleans toward empire, the Legislature of the Territory of Orleans granted one partnership a monopoly of use on the waters of the lower Mississippi River. The recipients, the so-called Mississippi Steamboat Navigation Company, were better known as the Fulton group because Robert Fulton, along with Robert Livingston and Nicholas Roosevelt, formed the company. The legislators offered such a potentially valuable grant in exchange for a promise that the group would bring their steamboat prototype to the lower Mississippi to challenge the river's current.<sup>11</sup> And though the Fulton group arrived later that year, successfully navigating the lower river with their vessel, the *New Orleans*, by granting the partners their monopoly the legislators had unwittingly insured that it was to be years before steamboats were to become common on the river system.<sup>12</sup>

Though the era of steam began when the Fulton group's *New Orleans* made its famous voyage from Louisville to the Crescent City in the winter of 1811–12, the partners' monopoly later dissuaded all but the most steadfast entrepreneurs from experimenting with steamboats on the western rivers.<sup>13</sup>

And the members of the Fulton group, with their monopoly yielding enormous profits, remained content to navigate only the lower—and safest—reaches of the river system, between New Orleans and Natchez, with a tiny fleet of steamboats.<sup>14</sup> As a result, despite the monopolists' successful challenge of the river's current, the majority of the valley's traders did not benefit from the early arrival of steam on the Mississippi system. They still made the long and difficult journey to and from market in New Orleans over land or upriver as they had before the arrival of the steamboats, under their own power. The power of steam remained a local phenomenon, improving the lives of only a few people along the New Orleans-to-Natchez route.

More than five years passed after the first voyage of the *New Orleans* before Shreve shattered the Fulton group's monopoly on the lower river. In the spring of 1817, although the *Washington's* journey represented few new technological strides, Shreve nonetheless won over lingering skeptics, reassuring them that steamboats would improve the settlers' lives in the valley. One antebellum western historian explained of the *Washington's* arrival in Louisville that "this was the trip that convinced the despairing public that steamboat navigation would succeed on the Western waters."<sup>15</sup> Shreve's journey aboard the *Washington* was so significant because, by 1817, people had realized that overcoming the rivers' currents represented only a part of controlling the Mississippi system. Though the Fulton group and Shreve himself had proven upstream travel possible, questions still lingered: Could anyone wrest control of the lower river from the monopolists? And, if so, would steamboats come into wide use on the Mississippi system?<sup>16</sup>

Though Shreve's journey aboard the *Washington* did not answer those questions directly, later that spring events following his voyage did. On April 21, 1817, after Shreve's legal counsel squared off with the Fulton group's lawyer in the U.S. District Court in New Orleans, Judge Dominick Hall ruled that his court had no jurisdiction in the case, effectively ending the Fulton group's chokehold on the lower river.<sup>17</sup> As a result, as westerners constructed a regional identity around their region's rivers and the steamboats plying them, they cast Shreve as the hero in the story of steam's arrival on the Mississippi. The role of the Fulton group in the process did not suit regional commentators offended by the monopolists' eastern origins and their desire to close the lower river. Over time, writers created a myth exaggerating Shreve's role in bringing steamboats to the Mississippi system.

They wrote that Shreve alone inaugurated the era of steam, claims that were more an expression of public memory shaped by regional pride than a fair representation of the lengthy process that besting the rivers' currents had been. Shreve had not conquered the Mississippi's currents aboard the *Washington* so much as he had freed the river for public use in the courtroom. For that he deserved his status as a hero and recognition as a key player in beginning the era of steam on the Mississippi.

#### THE ANNIHILATION OF SPACE AND TIME

When Judge Hall ended the Fulton group's monopoly on the Mississippi system, he started a process in which steamboats were to transform people's relationship with the valley's environment. Nowhere was the impact of Hall's decision more evident than at New Orleans's waterfront, where a technological revolution transpired. The levee at New Orleans presented an awesome spectacle in the years after 1817: a confluence of people, goods, sights, and smells—amazing in an era in which successful technological challenges to the boundaries of space and time had not yet become commonplace.

The key to understanding the transformed waterfront was the gradual arrival over the years of an increasing quantity of steamboats capable of traveling at ever greater speeds. Before 1817 New Orleans's wharf registrar recorded only seven different steamboats arriving at the waterfront.<sup>18</sup> In just over a year following Hall's decision in the Shreve case, fourteen new steamboats appeared on the wharf register, accounting for almost 200 arrivals at the levee.<sup>19</sup> Those numbers marked only the first trickle of what eventually became a flood of steamboats descending on the city. In 1827 there were over 100 steamboats on the western rivers; only five years after that steamboats made over 1,000 separate arrivals at New Orleans.<sup>20</sup> In 1859 more than 250 steamboats traveled the Mississippi system, making more than 3,500 arrivals at New Orleans.<sup>21</sup>

As impressive as the steamboats lined up along the riverfront may have been, many people were more intrigued by the goods those vessels carried to the city and what those goods seemed to symbolize. In the years after Shreve's voyage, New Orleans's levee emerged as an emblem of the fertility of the valley's soil, the industry of its settlers, and the power of technology. Located near the Mississippi system's mouth, New Orleans had always been

well situated to serve as a market for the valley, but steamboats brought the promise of the region's geography within the city's grasp much as railroads later linked Chicago and the vast environs of what historian William Cronon has called the "great West."<sup>22</sup> With the arrival of steamboats on the Mississippi system in great numbers, what had been New Orleans's hinterland in theory only became part of the city's zone of trade.

No better evidence of the transformation wrought by the steamboats existed than the towering piles of goods found along the Crescent City's waterfront. In 1816 New Orleans received approximately 4,000 barrels of apples, 38,000 bales of cotton, and 500 hogs, among many other items. The total receipts for the year exceeded \$8 million. Impressive numbers indeed, but the following year, after Judge Hall overturned the Fulton group's monopoly, receipts at New Orleans jumped by over \$5 million and never again dipped below \$10 million. In 1825 the value of receipts climbed over \$20 million, and by 1837 that number exceeded \$40 million. In that year the mountains of goods found along the waterfront loomed above the surrounding landscape: apples had climbed to 18,856 barrels, bales of cotton to almost 600,000 bales, and pork to almost 9,000,000 pounds. By 1840 over 500,000 tons of freight from throughout the valley had arrived at New Orleans's port, valued at nearly \$50 million. Around that time one captivated tourist remarked that "this same levee is the market place of the wealth of the West." Ten years later receipts at New Orleans's port climbed over \$100 million and never fell below that mark in the years leading to the Civil War.<sup>23</sup>

Other observers suggested that neither the steamboats nor the produce they carried were the most fascinating sights found at New Orleans's waterfront; instead it was the people who congregated there that best represented the ways in which technology had knit together the vast reaches of the Mississippi valley. Steamboat passengers as they disembarked, dockhands toting loads of cargo, the free people of color and enslaved African Americans working the boats and docks, and a polyglot crowd of traders all gathered along the riverfront.

Varied crowds could be found in other port cities in the United States and throughout the Atlantic world, but the variety of the people at New Orleans's waterfront during the era of steam could be overwhelming. One well-traveled visitor remarked that the "population passing in the streets, especially on 'the Levee,' and others adjoining the river, is the most amusing

motley assemblage that can be exhibited in any town on earth." He noted that "the prevailing language seems to be that of Babel—Spanish, Portuguese, French, English, mixed with a few wretched remains of Choctaw, and other Indian tribes; and all these are spoken in the loudest, broadest, and strangest dialects, especially in the markets."<sup>24</sup> Another observer exclaimed that "all grades of society, all classes here mingle & commingle in all the peculiarity of their individual character; as a western buster would say 'stranger, if you want a tall walk & want to see tall sights go for an hour on the levee.' And he who has not seen the New Orleans levee has not seen all of this great country."<sup>25</sup> At the Crescent City's waterfront a multicultural and multinational crowd gathered, brought together in one place by the power of steam.

The scene at New Orleans's waterfront testified to a host of changes steamboats had wrought in people's relationship with their environment. Whiskey from Kentucky distilleries, apples from New York orchards, corn from central Illinois farms, furs from the Canadian backcountry, cotton from the Mississippi delta, starched visitors from London, Creole traders haggling over prices, African American firemen cleaning soot from their faces, so-called Kaintucks napping beside battered flatboats, and genteel couples ambling slowly arm in arm, taking in the sights, all these mingled together at New Orleans's waterfront.

Such a collage of people and goods from lands far removed from one another would have seemed unlikely in the years before 1817, with the lower and upper reaches of the Mississippi valley separated by a half-year's arduous journey. Steamboats made such a gathering possible by transforming New Orleans from a muddy, colonial afterthought in the Spanish and French empires to the center of a vast network of trade, a city seemingly on its way to controlling an empire of its own. Awed by the commercial carnival created by the steamboats he witnessed along New Orleans's levee, one visitor exclaimed, "[N]o triumph of art over the obstacles of nature has ever been so complete."<sup>26</sup> From throughout the Mississippi valley—as far east as the western slope of the Alleghenies, as far west as the eastern slope of the Rockies, and as far north as southern Canada—steamboats brought people and goods to New Orleans, displaying them along the city's waterfront.

How were steamboats able to effect such a transformation in New Orleans's riverfront landscape? The answer lay in the vessels' speed and ac-

cessibility as more and faster steamboats plied the Mississippi system with each passing year. After conquering the river's currents, velocity became an all-consuming passion for steamboat men. The boat recording the fastest time on a main route "held the horns" in the parlance of the river.<sup>27</sup> When the *Washington* traveled upstream from New Orleans to Louisville in twenty-five days the feat seemed impossible. Stories recall that when the people of Louisville feted Shreve for his accomplishment, he exclaimed that his record-setting run would quickly drift into the realm of dim memory.<sup>28</sup> Shreve guessed that the journey upriver from New Orleans to Louisville would soon take less than ten days. Witnesses laughed, but Shreve knew his business well. The *Shelby* swept the horns later that fall when it ran upriver to Louisville in just over twenty days. In the spring of 1819 the *Paragon* broke the twenty-day barrier. Shreve's prediction finally came true in 1828 when the *Tecumseh* arrived in Louisville only eight days out of New Orleans.

By 1850 a passenger could leave New Orleans on Sunday for an engagement in Louisville on Friday, confident she would arrive on time.<sup>29</sup> A voyage of nearly 1,500 river miles in less than a week, the distance and time seems paltry and pokey in our era of supersonic travel. For people living in the valley in the years before the Civil War, however, steam travel upended the meanings of time and distance and in doing so altered people's relationship with the Mississippi system and the geography of the valley.

Steam travel collapsed time and space, as a kind of technological alchemy first turned between three and six months' hard labor into one month's comparatively luxurious travel. Less than twenty years later further innovation transformed that month-long voyage into a journey spanning less than a week. So fast were the boats that they appeared able to outpace the seasons. One passenger explained of a late autumn trip down the Ohio and Mississippi that technology had turned back time: "At Pittsburgh the trees are stripped of their leaves by frost. At Cincinnati nature is laying on the last mellow colors of autumn, and the leaves are beginning to fall. At Natchez the forests are still in the verdure of summer."<sup>30</sup>

It seemed as though steamboats had compressed the vast environs of the West like an accordion, bringing the upper Ohio River and the Mississippi delta together with the relative ease with which we might fold a map of the central United States, leaving Baton Rouge astride Pittsburgh. One commentator looking upon New Orleans's waterfront wrote of the boats'

impact, "Every day some come from above and others depart, on excursions of one or two thousand miles, to St. Louis, Louisville, or Nashville, or Pittsburgh, or hundreds of other places. For distance is no longer thought of in this region—it is almost annihilated by steam." To the people of the West, and New Orleans particularly, the steamboats represented "a complete revolution in the internal navigation of that region," a revolution that changed the way they perceived their surroundings and their place in the valley.<sup>31</sup>

Observers who walked the waterfront at New Orleans revered the technological innovation that had provided the foundation for the scenes they witnessed. That goods and people from remote lands could meet at the city's waterfront represented a triumph of human ingenuity. As one commentator noted, "The distant points of the Ohio and the Mississippi used to be separated by distances and obstacles of transit more formidable, in passing, than the Atlantic." Then, after the steamboats arrived, "all of the advantages of long rivers remain, divested of all the disadvantages of distance and difficulty of ascent."<sup>32</sup> That the river's current could be overcome, that people could travel in relative ease and comfort upstream from New Orleans to the furthest reaches of the valley seemed to prove that humans could control the river system. One visitor to New Orleans noted that "the former difficulty was in ascending the stream of the Mississippi and Ohio against all the strength and velocity of the current, ever rushing with an overpowering flood to the ocean." In his estimation people, with their invention of steamboats, had cleared those hurdles. "This natural obstacle is now overcome by the inventive genius and mechanical enterprise of man; and the exhalation arising from a few tea-kettles full of boiling water has triumphed over opposing winds and tides."<sup>33</sup>

These revelations tie into a traditional understanding of the role technology plays in shaping people's relationship with their surroundings: in some respects steamboats isolated people from the Mississippi valley's environment, buffering them from the unpredictability of the river system, ultimately diminishing their awe at the power of the nonhuman world in favor of a reverence for new mechanical innovations.<sup>34</sup> As a result, over time, some people expressed greater confidence in humans' ability to control their environment, while others displayed hubris in dealing with the Mississippi system.

NATURALIZING INDUSTRIAL DISASTERS  
ON THE MISSISSIPPI SYSTEM

For all of the powerful technology that drove the era of steam, for all of the mechanical, agricultural, and human pageantry on display along New Orleans's waterfront, and for all of the successes people enjoyed in their quest to control the Mississippi system, sometimes steamboats and the rivers they traveled seemed to rebel against their roles as servants of the interests of commerce. Even as people celebrated their victory in stemming the Mississippi's powerful current, the river often displayed its dynamism in ways beyond the power of its waters traveling downstream. River hazards, and snags especially, menaced steamboat pilots and passengers. Snags yanked scores of steamboats into the murky depths of the lower Mississippi, causing huge financial losses and human carnage.

River catastrophes suggested that the Mississippi system could not be tamed as easily as scenes along New Orleans's riverfront suggested, illustrating that even the most powerful technological innovations could not completely protect the people of the lower valley from dangerous elements of their environment. The reactions that survivors and onlookers had to river disasters suggest how people's views of the Mississippi system changed during the era of steam. Residents of the lower valley did not accept that steamboats might sink due to snags found in the rivers. They did not view such disasters as a matter of course in an early period of a new technology's development, nor as limits that their environment had placed on the ease of river transit. Instead, valley residents attempted to consolidate gains they had made in their effort to control the river system by imposing further order on their environment. Their efforts ultimately proved successful in some ways, failed in others, while always yielding some of the most profound human transformations of the lower Mississippi during the era of steam.

By 1823, with nearly 100 boats afloat on the western rivers accounting for more than 750 arrivals in New Orleans, steamboats had become a familiar sight in the lower valley. At that time, the *Tennessee*, a large, handsome craft, was one of the newer boats afloat on the Mississippi. Just after 10 P.M. on February 8, 1823, the *Tennessee*, crammed with passengers and cargo, moved upriver on the Mississippi, just outside Natchez. As a heavy snow fell, the *Tennessee* suddenly shuddered and then came to a dead stop when a fallen tree, with one end anchored in the river's bed and the other rising up

to just below the water's surface, pierced the boat's hull.<sup>35</sup> Water gushed into the vessel's innards, and cabin passengers began panicking while deckhands sprinted around the boat. One account reported that the captain "gave orders instantly to stop the leak; but the pilot, who had been down to examine the damage, with difficulty escaped from the hold, in consequence of the water so rapidly rushing in."<sup>36</sup>

The tree had ripped a hole in the steamboat as large "as a common door," and the "truth was soon told—the *Tennessee* was going down." As the boat sank, some passengers scrambled atop anything they thought might float, while others jumped into the freezing Mississippi, struggling to swim to shore. The crippled boat floated downriver, eventually lodging amid some willows, with only a portion of its topmost deck visible above the muddy water. Reports indicated that at least sixty passengers had died, and for months people throughout the lower valley talked about the sorry fate of the *Tennessee* and its victims.<sup>37</sup>

When the *Tennessee* sank in 1823 the vessel fell victim to the most common of the river perils that plagued the Mississippi system during the era of steam: snags. "Snags" were identified as natural obstacles, seemingly embodying a dark side of the Mississippi system. To survivors of steamboat wrecks and observers who discussed them, snags appeared to reach from the bottom of rivers, yanking vessels and passengers into the muddy depths below.

There were two kinds of snags: *planters* and *sawyers*, both products of a dynamic riverine environment. Because the Mississippi created the land surrounding it over millennia through deposition, its banks were extremely unstable and prone to cave-ins. As a result the river's current often tore out whole sections of riverbank, sweeping groups of trees found there, or in some cases even "acres of forests" into the river. Once riverborne, trees absorbed water, losing much of their buoyancy, and some sank to the bottom of the river, bothering no one. Others sank partially, leaving a portion lurking near the surface, threatening river traffic. Trees that became fully fixed in the riverbed were known as "planters" because they became planted in a static position. Others that did not fully plant remained stationary only at their base, while their upper reaches oscillated back and forth in the current, and thus were called "sawyers."<sup>38</sup> Both large planters and sawyers could penetrate the thin hulls of riverboats such as the *Tennessee*, sinking a craft in a manner of minutes.

During the era of steam people learned to fear snags hiding in the river. The valley's residents became terrified and frustrated that even though technology had conquered the Mississippi system's current the western rivers retained elements of unpredictability and danger. Over time, alarmed travelers and river professionals alike elevated snags to mythical status as monsters, likely because the mysterious hazards contrasted to the controlled environment that steam ostensibly guaranteed. Steamboats had promised to regulate travel and commerce, overcoming the Mississippi system's powerful current and controlling its dynamic riparian environment. Catastrophes, in contrast, were unpredictable; they could cause millions of dollars in damage and end hundreds of lives with no warning at all.

Over time people developed what seemed like irrational fears of the river hazards, illustrated in the language used to describe snags. If a snagged tree's canopy remained, some people likened it to a multiheaded hydra. If not, then it could be compared to a long-armed ogre waiting to sink its teeth into vessels. One traveler, the Lady Emmeline Stuart Wortley, contrasted trees on land, with their arboreal splendor, to those in the water, where they appeared as unnatural interlopers: "It is quite curious to see hosts of floating trees, agitated and restless, and ever-tossing about in the rapid current. . . . Who could believe that the birds had ever built and sung in their branches? or that they were appareled in the sweet livery of spring? they have become such black, mummified monsters, and look so hideous and forlorn."<sup>39</sup> So long as trees remained in their "natural" place—on land—Wortley cast a romantic eye on them, but once they found their way into the waters of the Mississippi system they became "unnatural monsters," misplaced threats to commerce and travel.

Both kinds of snags were notorious, but educated travelers and riverboat men reserved special antipathy for sawyers, which often remained hidden beneath the current so "the steersman this instant sees all the surface of the river smooth and tranquil, and the next he is struck with horror at seeing just before him the *sawyer* raising his terrific arms, so near that neither strength nor skill can save him from destruction."<sup>40</sup> Again, here, as in the case of Wortley's observation, the snag, once waterborne, loses its identity as a feature of the "natural" landscape. Instead it is gendered male ("his") and personified further ("terrific arms") as it is cast as a threat.

Sawyers were reviled more than planters for another reason as well. They most often struck boats traveling upstream, because pilots steamed

upriver close to shore in the shallows, away from the more powerful mid-stream current, and sawyers frequently reached the surface in the shallows flanking the shore. Additionally, boats traveling upriver were also more vulnerable to the snags because of "the difference of rubbing the back of a hedgehog the right or wrong way."<sup>41</sup> Since disaster most often ensued when boats bucked the river's current—an act some observers believed defied the will of the Mississippi, what they called "nature"—for many people sawyers represented retribution meted out to those unfortunates who dared challenge the river system and by extension the will of nature.

#### SNAG CLEARING AND DEFORESTATION

Although sometimes couched in irrational language, people's fears of snags were nonetheless founded in bitter experience with the lingering unpredictability of the Mississippi system. A survey done in 1830 found that of the 321 steamboats ever known to have traveled the western rivers more than 10 percent had been destroyed by snags.<sup>42</sup> Of all steamboats falling victim to catastrophe in the years before 1850, snags were responsible for 60 percent of the sinkings.<sup>43</sup>

Faced with the ongoing threat of snags, valley residents began calling for solutions to the problem. The language used in these pleas reveals that people had grown confident in technology's ability to overcome all environmental problems. Drawing on their experiences with the power of steamboats, the valley's residents believed that if the Mississippi's current could be overcome, surely the river's waters could be made safe for commerce and travel. Aware that such an undertaking would be massive and costly, they turned to the federal government for assistance. One memorial to Congress, sent by petitioners from Louisiana, explained: "the difficulties under which . . . the West labors in pursuit of a market for the surplus productions of that fertile region, are twofold—distance from the seaboard, and the danger of the voyage down the Mississippi River. The use of steamboats has annihilated the first; it remains for the Government to . . . remove the latter."<sup>44</sup> As their rhetoric indicated, during the early years of the era of steam the people of Louisiana had become so used to the convenient control of the Mississippi system that steamboats offered that they were unwilling to accept further limitations the river system placed on their commercial pursuits.

Congress replied to such requests by enacting some of the first river-improvement policies in the nation, simultaneously expanding its role in overseeing and shaping the western landscape. As part of an act of 1824 for river and harbor development, Secretary of War John C. Calhoun put out a call—with a \$1,000 reward attached—for the best invention designed to remove snags.<sup>45</sup> The bounty went to a Kentucky man whose design fell from use after Henry Shreve offered the government what became known as the snag boat.<sup>46</sup> For years Shreve had been serving as an apostle for new steam technology in the valley. After his journey aboard the *Washington*, Shreve continued trading on the river with innovative, larger steamboats. Aware that while steamboats had bucked the Mississippi's current other environmental obstacles still remained on the river system hindering travel and trade, he designed his snag boat.

The body of Shreve's vessel resembled a steam-powered catamaran; the working guts of the contraption lay in a long steam-powered claw that gripped snags. The claw either plucked snags from the riverbed or raised them high enough so the boat's crew could saw them off, rendering them harmless below the river's surface. To cope with the largest snags, Shreve equipped his boat with a metal beam linking the two hulls at the bow, beneath the waterline. The vessel ran toward a snag, either snapping it at impact, dislodging it from the riverbed, or catching and raising it with the fore beam, at which point the claw plucked it from the river or the vessel's crew sawed it down.<sup>47</sup>

Once they began operating, the snag boats were remarkably successful, justifying the high regard westerners had for Shreve and furthering the impression that human innovation could overcome even the most stubborn environmental problems in the valley. In the span of only one busy month, two of the vessels removed over 6,000 snags.<sup>48</sup> With Shreve's boats working the rivers, financial losses from snags on the Ohio and Mississippi declined from \$1,362,500 between 1822 and 1827 to only \$381,000 between 1833 and 1838.<sup>49</sup> Commenting on the invention's success, in 1836 a writer at the *New Orleans Bee* claimed that "the Mississippi itself should be improved so far, that in the navigation of it, no obstacles should be encountered except those dependent on weather: for all others—and even those partially—may be removed by art."<sup>50</sup>

As the journalist suggested, many residents of the valley believed "art," or artifice—what we call technology—provided the key to controlling the

Mississippi system, and further technological advance would overcome any remaining environmental constraints on the river system. With the arrival of new technologies *all* obstacles would be removed, including, perhaps, even inclement weather. Such predictions were fanciful, no doubt, but so too had been Shreve's guess that the trip from New Orleans to Louisville could take less than ten days, and that had come true. For many observers the snag boats appeared to have cleared one of the final hurdles on New Orleans's road to commercial empire, as Shreve again offered people a powerful weapon in their efforts at controlling the Mississippi system. If his exploits aboard the *Washington* had played a key role in opening the river system to steamboats, his snag boats went far toward imposing further order on the Ohio and Mississippi, making the rivers safer for navigation.

And yet even as Shreve enjoyed success with his snag boats, the Mississippi system sometimes proved an intractable foe. Snag boats could operate only in seasons of high water; for months each year Shreve watched the vessels languish in dry dock, waiting for rain to raise the rivers' levels. Inactivity frustrated the inventor, who was unaccustomed to giving ground to environmental constraints, and Shreve became overzealous in his response to the planters and sawyers choking the western rivers. He attacked what he perceived as the root of the problem: the trees lining the shore.

In 1827 Shreve stated that the snag problem could only be solved "by cutting down all the timber from off the banks of the river, at all places where they are liable to fall in, from three to four hundred feet from the margin of the river." Later, as he removed whole forests from the riverbanks, Shreve left ample record of the devastation he wrought. In the last quarter of 1832 and the first quarter of 1833 his workers felled 10,000 trees. In his report on the carnage Shreve discounted the protests of his few detractors, stating that "the last named work [felling timber from the banks of the river] is thought by many persons to be an injury, and not an improvement to the river. I am, however, of a very different opinion." Confident in his enterprise, he moved forward. In six months, over the course of late 1833 and early 1834, his production fell to only 1,621 trees removed, but the following year he cut almost 2,500 trees over the same span. Shreve's workers reached full speed between September 1842 and June 1845 when they removed almost 75,000 trees.<sup>51</sup> In Shreve's eyes, not just the snags but the forests lining the Mississippi system's shores had become river hazards.

How had Shreve arrived at such a destructive course? The answer lies in

part in ignorance, but also in the ways steam changed people's perception of their environment. As James Hall, a regional commentator, reported, the arrival of steamboats shifted the meaning of forests in the lower valley. Hall wrote, "[T]he immense forests were, before, not only useless, but an obstacle to the rugged farmer, who had to remove them before he could sow and reap. The steamboat, with something like magical influence, has converted them into objects of rapidly increasing value."<sup>52</sup> Hall's observation summarized the manner in which steamboats had transformed the valley's trees from impediments to progress to marketable commodities because of the vessels' insatiable appetite for timber to fire their boilers. Experts estimated that on average steamboats consumed thirty-two cords of wood for each twenty-four hours of running time.<sup>53</sup> More recently, F. Terry Norris has noted that one cord of wood yields approximately 1,500 board feet; thus each steamboat on the Mississippi system consumed more than 50,000 board feet of wood per day.<sup>54</sup> As early as the mid-1820s, when Shreve began cutting timber from the riverbanks, with more than 100 steamboats traveling the Mississippi system the acreage of forest consumed each day for fuel was massive.<sup>55</sup> In short, deforestation was a constant byproduct of the era of steam.

Shreve's actions, however, illustrated yet another way in which steamboats transformed people's perceptions of the valley's forests, as he began cutting trees not for fuel, a productive use, but as a means of keeping them from entering the river and forming snags. In Shreve's eyes the forests lining the rivers' shores menaced trade and transportation on the Mississippi system. He concurred with government inspectors working in the wake of the *Tennessee* disaster who labeled the forests "terrible obstacles" and "causes of much calamity to the people of the West." "Only when the forests shall be entirely cleared," suggested their report, will "these frightful and formidable enemies of western enterprise gradually disappear."<sup>56</sup> Convinced of the nobility of his pursuit, Shreve set about alleviating the problem presented by the dense forests lining the river system's banks.

While Shreve's plan for clearing trees was innovative, it was also fatally flawed and ultimately had devastating consequences for the lower Mississippi's ecology. As he progressed with his work Shreve reassured critics who carped that clearing the banks was a mistake by claiming that "no possible injury can arise from it that I am aware of."<sup>57</sup> Still, despite Shreve's convictions, cutting down the timber lining the Mississippi was misguided because

the forests had great, though hidden, value in addition to their potential as fuel. Root systems of trees are agents of soil stability. Along the loose banks of the lower Mississippi, trees were often the only thing providing structural integrity to the shoreline. As Shreve removed the timber lining the river, he increased the banks' tendency to cave into the passing waters. Some of his contemporaries also recognized that logging contributed to greater and more frequent flooding in the valley.<sup>58</sup> Floods in turn increased the river's currents, and thereby their corrosive effects on the banks. Again Shreve contributed to the problem he set out to solve.

In light of these facts, it is easy to heap retrospective scorn on Shreve's shoulders. Hubris, we cry; pillager of the landscape; agent of a budding technocracy; and, in some ways, Shreve was guilty on each of these counts. Still, one must remember that Shreve was a product of his times. He was taken with the power of technology to improve people's lives, as were most of his contemporaries who had seen the bright side of the dawning machine age in the West. And, as Shreve explained to critics, there was no shortage of trees in the valley, and he was not alone in viewing a clear-cut landscape as a sign of progress. Perhaps more revealing than Shreve's enthusiasm for deforestation is the minimal resistance found to his program of logging the river's banks. Even as the State of Louisiana enacted legislation to protect riparian proprietors from riverboat men who refused to pay for timber taken during "wooding," there is little evidence of protest against Shreve's actions.<sup>59</sup> This silence likely speaks volumes about the enthusiasm the valley's residents had for steamboats, the man who ostensibly protected them, and federally sponsored river improvements.

## CONCLUSION

Shreve's involvement in the advent of steam and snag clearing on the western rivers reveals much about a critical episode in the ongoing human transformation of the lower Mississippi. The era of steam was a linchpin in the valley's environmental history. The arrival of steamboats on the river system marked the juncture of a precapitalist, largely colonial period of resource exploitation, and an era in which people increasingly depended on industrial technologies as they engineered the world around them. Shreve stands out as a crucial figure in that transformation, not just because of his role in opening the river and later making it safer for commerce and travel, but also

because of the ways in which contemporary commentators and later historians depicted his role in bringing steamboats to the Mississippi. By reexamining the ways in which steamboats altered people's relationship with the valley's environment, and Shreve's effort to clear the river of snags, we can glimpse how people's relationship with the lower Mississippi shifted in the first half of the nineteenth century. And by debunking romantic myths underlying most work on steamboats, and thinking more critically about heroic portrayals of Shreve, we begin to understand the early impact of technology on the valley's environment.

Deforestation and the so-called annihilation of space and time in the valley are only two ways in which steamboats portended the start of an industrial age on the Mississippi system. With that age came a new era of environmental exploitation and degradation. That people reshaped their environment was nothing new when Shreve set out from New Orleans for Louisville aboard the *Washington* in 1817. During the era of steam, however, people began using more powerful tools as they transformed the lower Mississippi. And as Todd Shallat and Craig Colten demonstrate in later chapters, the valley's residents' growing confidence in and dependence on those tools ultimately led to disasters such as Hurricane Betsy and the rise of a chemical corridor on the lower Mississippi so noxious it is known now as Cancer Alley.