In my universe of America, the deer runs free, and the Hunter [is] free forever... America will always be my land. I never close my eyes without travelling thousands of miles along our noble streams; and traversing our noble forests. The voice of the thrush and the rumbling noise of the Alligator are still equally agreeable to my sense of recollection.

John James Audubon (1827)\(^1\)

Between 1808 and 1843, the ornithologist and artist John James Audubon traversed the farthest reaches of the Mississippi River Valley, from the headwaters of the Ohio River, to the headwaters of the Missouri, to the Mississippi’s mouth draining into the Gulf of Mexico.\(^2\) Although Audubon sought to publish and sell illustrated books of North American birds and mammals, money-making was not the sole motive for his odyssey. His aims were varied and reflected a strong passion for traveling, seeking adventures, hunting, studying birds and mammals, and depicting them in narrative prose and art.

John James Audubon was born in 1785 in Santo Domingo (Haiti), the illegitimate son of John Audubon, a French naval captain and merchant, and his French chambermaid, an

---

“extraordinarily beautiful Woman” named Jeanne Rabine. Jeanne died six months after John James was born; in 1791, he, his father, and his sister were driven from Santo Domingo by a slave rebellion. Captain Audubon, a wealthy man his son remembered as “quick, industrious, and Soberly inclined,” resettled the family in the French town of Nantes. There, he instilled in young John James his own love of nature, especially bird-watching. But the chaos of Revolutionary France and rise of Napoleon worried Captain Audubon. Fear of military conscription, John James remembered, “determined my Father on sending me to America [to] Live on the Mill Grove Farm,” Captain Audubon’s estate near Philadelphia. In 1803, John James Audubon arrived in America and began what would become a rapid and total acculturation to the values, ambitions, patriotism, and optimism of the young frontier republic.

John James Audubon married Lucy Bakewell in 1808, and the two immediately headed southwest aboard an Ohio River keelboat, seeking their fortune in the trans-Appalachian West. Over the next decade Audubon managed to lose large sums of money in the general store business and other ventures in Louisville and Henderson, Kentucky, and Shawneetown, Illinois. Although one traveler insisted that “science and literature had not found one friend” in Louisville, Audubon continued to study and sketch birds, a hobby begun in Pennsylvania. Soon after the Panic of 1819 briefly landed Audubon in jail for debt, he left his young family behind and sailed aboard a southbound flatboat. “Ever since [I was a] Boy,” he wrote, “I had an astonishing desire to see much of the world & particularly to Acquire a true knowledge of the Birds of North America.”

From 1820 to 1821, Audubon traversed the lower Mississippi River Valley, writing an elaborate journal, observing and recording natural and sociological phenomena, and bird-

watching. Settling in New Orleans with his reunited family, from 1821 to 1826 he created and attempted to market a portfolio of beautiful and detailed drawings of the birds he studied. His media were mixed; he drew in paint, chalk, lead, and graphite. Each bird appeared in a scene that reflected the surrounding environment and often involved some action, like hunting prey. Observers remarked on the “personalities” of birds reflected in Audubon’s drawings. Failing to find a publisher in America, in 1824 the thirty-nine-year-old artist sailed to Europe.\(^5\)

During his remarkable three-year tour of England, Scotland, and France, Audubon created a minor sensation. He quickly learned, and took advantage, of Europeans’ romantic fascination with the American frontier and folk heroes like Daniel Boone, Davy Crockett, Andrew Jackson, and the half-horse, half-alligator Mississippi rivermen. In an 1826 self-portrait, Audubon sketched himself wearing a fur cap, long leather hunting shirt and high-topped moccasin footwear (“leatherstockings”), with a belted tomahawk and hunting rifle in hand. Like Boone, he wore his hair shoulder-length and combed it through with bear grease. Audubon certainly held legitimate claim to such a mystique; he was a skilled hunter (he used bird carcasses as painting models) and had sailed the length of the Ohio and lower Mississippi aboard flatboats and keelboats. But Audubon also had a penchant for the dramatic, and he knew how to tell a good story.\(^6\)

John James Audubon’s artistic talent and life story combined with his ability to market the frontier myth to gain him a publisher for the hugely successful *Birds of America* (1828–38). This was followed by his *Ornithological Biography* (1831–39), and *The Viviparous Quadrupeds of North America* (1845-48), establishing Audubon as a premier American zoologist, artist, hunter, and frontier folk hero.

Audubon’s blending of science, art, and folklore reflects the key inspirations of his life and career. Although he is arguably the Mississippi Valley’s greatest naturalist, he was not alone in his desire to portray the Great Valley’s environment. Scores of

his colleagues (and adversaries) also roamed the early trans-
Appalachian frontier and sailed the Ohio, Missouri, and upper
and lower Mississippi Rivers and their tributaries. Together they
recorded and preserved oral, written, and drawn images of the
topography, flora, fauna, and climate. Their images provide, as it
were, a bird’s-eye view of the Mississippi Valley.

In its widest definable extent, the Mississippi Valley is that
region of North America bounded by the Appalachians to the
east and the Rocky Mountains to the west. As a specific
geographic culture, however, the Mississippi Valley is that region
typified by the deciduous forests, valleys, prairies, and
floodplains extending west from the Appalachians to the 98th
meridian, where America’s semiarid Great Plains commence.
The Mississippi River itself is born at Lake Itasca, in north-
central Minnesota, and is fed by the Ohio and the Missouri.
The Minnesota, Illinois, Des Moines, Yazoo, Arkansas, Ouachita,
White, Red, and other rivers, and all of their tributaries, also feed
the Father of Waters.7

Because of its vastness, we can best view the Mississippi Valley
in increments, studying Audubon’s and other travelers’
descriptions of the Ohio Valley, the upper Mississippi, the
Missouri River Valley, and, finally, the lower Mississippi to the
Gulf of Mexico.

In the Mississippi Valley’s northeastern corner, the Ohio River
is created by the Monongahela and Allegheny Rivers, and joined
by the Scioto, Kentucky, Miami, Tennessee, Wabash,
Cumberland, and Tennessee, among others. The Ohio River
flows southwesterly 1,100 miles, from the Appalachians towards
its confluence with the Mississippi. The Ohio River Valley (like
the Missouri River Valley) is a major geographic component of
the Mississippi River Valley.8

Early nineteenth-century naturalists saw marked changes as

7. J. W. Foster, The Mississippi Valley: Its Physical Geography, Including Sketches of the Topography,
Botany, Climate, Geology, and Mineral Resources; and of the Progress of the Development in
Population and Material Wealth (Chicago, Ill., 1869), passim. See also Christopher Morris, The
Big Muddy: An Environmental History of the Mississippi and Its Peoples from DeSoto to Katrina
(New York, 2012).
8. Foster, Mississippi Valley, 42–43.
they sailed down the Ohio—changes in topography, climate, plants, and animals. The river’s beginnings are in the heavily forested foothills of the Appalachian Mountains, where Audubon described trees “hung with long and flowing festoons of different species of vines.” Other travelers found this upper Ohio forest immense and dark, “like a sea of woods … as far as the eye can reach.” The banks of the Ohio were covered with maples, oaks, hickory, and huge sycamores. One old sycamore’s diameter was recorded at nineteen and a half feet (settlers reportedly used huge hollowed trees as grain bins and even shelters). Travelers were struck by the fragrant smells of locust, honeysuckle, herbs, and flowers. Winthrop Sargent, the first governor of Mississippi Territory, wrote of “shrubberies diffusing every species of perfume,” the “fragrance of the woods,” and “aromatically scented valleys.”

Naturalists and other travelers noted that the deep forest was devoid of underbrush and the forest floor bare of vegetation. The cause was the Indian practice of burning brush each year to make farming mulch, or to assist in clearing hunting and warfare grounds. Another result was that during the fall the upper Ohio was curtained by a shroud of smoke, a kind of pre-industrial air pollution. Audubon remembered “the Blood Red Raising Sun—and the Constant Smokey atmosphere,” which had been ascribed to “Indians firing the Prairies of the West.” Andrew Ellicott (a naturalist who also happened to be the American envoy to Spanish Natchez) described these “clouds of smoke,” as did Audubon’s ornithologist rival (and an amateur poet) Alexander Wilson:

Red through smoky air the wading sun
Sunk into fog ere half the day was done;
The air was mild, the roads embrown’d and dry,
Soft, meek-eyed Indian summer ruled the sky.\(^{10}\)


The Ohio Valley was home to myriad animal species and an abundant fishery. “Now and then a large catfish arose to the surface of the water,” Audubon wrote. “Other fishes we heard uttering beneath our [boat] a rumbling voice” were “white perch.” John May, a Boston entrepreneur and adventurer, complained the fish underneath his flatboat were so numerous and noisy they “frequently keep me awake half the night.” Audubon also noted (and hunted) “foxes, Lynxes… Many Dears,” and he “saw a Bear on a Sand Barr, had a great run after it—to no purpose.” He wrote about “the Wolf,” praising that animal’s “strength, agility, and cunning.”

Of course, John James Audubon’s main interest was birds, and he described numerous Ohio River species. In one twenty-four-hour period during October 1820, he noted, “Many Ducks, Several Northern Divers or Loons—some Cormorants, Many Crows … Pa[r]tridges … Ravens—Many Winter Hawks—some Red breasted Thrushes or Robins … 2 Pheasants … a Young Blackburnian Warbler—a Young Carolina Cucko[o]” and a “Bar[r]ed Owl.” He especially admired turkeys, “one of the most interesting of the birds indigenous to the United States of America,” and placed them first in his Ornithological Biography. He praised their “Great size and beauty.”

As the Ohio meanders southward, the hills and mountains subside and the river descends into prairies and flooded lowlands. Zadok Cramer, author of an early nineteenth-century travelers’ guide called The Navigator, wrote that near the “Great Falls of the Ohio” (Louisville), “the low lands commence. The hills … now entirely disappear.” The French scientist Constance F. Volney also described these swampy lowlands, bordered by “deep woods.” Here, the river widens and increases its velocity as it prepares to enter the Mississippi. At the juncture of these two great rivers, on November, 17, 1820, Audubon wrote, “I took the
Skiff and Went to the Mouth of the Ohio, and round the point up the Mississippi ... I bid my Farewell to the Ohio at 2 o’clock.”

From its Lake Itasca source, the upper Mississippi River Valley differs in some respects from the Great Valley around and below Saint Louis, where the Mississippi is joined by the Missouri, Illinois, and Ohio Rivers. The upper Mississippi Valley still bears dramatic remnants of its glacial beginnings. During the great Ice Age, from approximately 75,000 to 12,000 BC, huge glaciers, 5,000 to 10,000 feet thick, covered North America. When the earth began to warm, around 12,000 BC, the glaciers slowly melted. Mastodons and mammoths roamed the plains abutting the receding glacial ice. Paleolithic hunters, the first humans in North America, inhabited these harsh plains.

The melting glaciers formed lakes. Lake Agassiz, the largest of these, created and fed an enormous river that flowed south, carving out the Minnesota and upper Mississippi River Valleys; the Mississippi flows from Itasca into this valley at Saint Anthony’s Falls. Joined by other glacial lakes and their rivers, the Mississippi River for 3,000 years carved the upper valley that is today lined by bluffs from two hundred to six hundred feet high. In fact, the original bluffs were twice that high; fully one-half of the original valley floor is now filled with rich silt left by the river’s torrent.

Flowing southward alongside towering bluffs, the upper Mississippi is narrower (only a few hundred yards wide in places), with a slower current than the lower Ohio, Missouri, and lower Mississippi. The channel held major navigation obstructions at the upper and lower rapids near modern-day Rock Island. Bluffs, forests, prairies, and marshes lined the river’s banks. Winter weather reaches subzero temperatures, and the waters freeze over for weeks and months on end. Spring and

15. Walker, Mississippi Valley, 27–40; Foster, Mississippi Valley, 335–36.
autumn are relatively mild, but summers in the upper valley are hot and humid, with the heavy, late afternoon thundershowers that characterize the Mississippi Valley in general.\textsuperscript{16}

John James Audubon sailed the upper Mississippi by both keelboat and steamboat. Although Audubon did not use the modern ornithological term “flyway,” he knew the Mississippi Valley was a major migratory route for geese and other birds. He wrote, “The Canada Goose makes its first appearance in the western country, as well as along our Atlantic coast, from the middle of September to that of October, arriving in flocks composed of a few families.” He continued,

The flight of this species of Goose is firm, rather rapid and capable of being protracted to great extent... In rising from the water or from ground, they usually run a few feet with outspread wings; but when suddenly surprised and in full plumage, a single spring on their broad webbed feet is sufficient to enable them to get on wing.\textsuperscript{17}

Audubon also studied and drew the “White-headed Eagle,” a bird he observed along the upper Mississippi and throughout the Great Valley. He was awed by their huge, powerful wings, and strong, unequaled flight, and he praised their daring and “cool courage.” While “descending the upper Mississippi” he commented on eagles’ “audacity” in hunting. Waxing romantic, Audubon called this “noble bird ... the remembrance of a great people living in a state of peaceful freedom”:

[P]ermit me to place you on the Mississippi, on which you may be floating gently along... The Eagle is seen perched, in an erect attitude, on the highest summit of the tallest tree by the margin of the broad stream. His glistening but stern eye looks over the vast expanse... Now is the moment to witness the display of the Eagle’s powers.\textsuperscript{18}

\textsuperscript{16} Foster, Mississippi Valley, 335–36; Audubon, Ornithological Biography, 547–50.  
\textsuperscript{17} Audubon, Ornithological Biography, 369, 373–74.  
\textsuperscript{18} Ibid., 238.
The Missouri River is born in the northern Rocky Mountains, where the Madison, Gallatin, and Jefferson Rivers (named for President Jefferson and his secretaries of state and treasury by the scouts Meriwether Lewis and William Clark) join together at Three Forks. From there, the Missouri flows southeast 2,540 miles through prairies to the humid climes of the Mississippi Valley heartland. Major rivers feeding the Missouri are the Milk, Yellowstone, Osage, Vermillion, Big and Little Sioux, and Platte, and these rivers and others are fed (and muddied) by many tributary streams. The Missouri’s current is extremely swift (up to five miles per hour) and its lower portion is more difficult to navigate than even the lower Mississippi.  

Naturalists divide the Great Plains ecosystem into tall-grass and short-grass prairies (using the terms “plain” and “prairie” interchangeably). The short-grass prairies extend, approximately, from the foothills of the Rocky Mountains to the 98th meridian and constitute the semi-arid Plains. Audubon “cross[ed] … the wide Prairies” and steamed along the upper Missouri in researching *The Viviporous Quadrupeds of North America*. His drawings and word-pictures portrayed the archetypal Plains creatures—grizzly bear, elk, antelope, beaver, wolf, coyote (“prairie wolves” to Audubon), fox, gopher and prairie dog, and, of course, American bison, the buffalo. During Audubon’s 1840s trip, the latter still flourished amid the abundant native grasses of the upper river valley and surrounding plains.

There is no exact place on the map where the short-grass prairie ends and tall grass begins, but the ecosystem undergoes marked change in and around the 98th meridian; by this point the elevation has fallen from 5,000 to 1,500 feet. It is here that one senses the beginnings of the Mississippi Valley’s classic features—the rich, green, humid landscape that typifies America’s heartland.

One of the most obvious signs that one has entered the Mississippi Valley is the appearance of fireflies. They are visible in small numbers in the eastern regions of the Dakotas, Nebraska, Kansas, Oklahoma, and Arkansas; they dramatically increase as one nears the Mississippi River. Of two thousand species of fireflies worldwide, three genera—Photinus, Photuris, and Pyractomena—light the skies of the Mississippi Valley with flashing green, yellow, and orange lights. Their “fire”—produced by a chemical reaction in the abdomen—helps them identify and choose mates.22

Missouri River travelers described mosquitoes (today we know the most common sub-species as Aedes and Culex). Some said mosquitoes were bigger and more plentiful on the upper Missouri, but they flourished throughout the valley. Young mosquitoes hatch from ten-day-old eggs laid at the edge of floodplains, and they can fly in intervals over a range of up to fifteen miles. Countless travelers complained of “myriads of mosquitoes and other insects”; Audubon recurrently describes “Mosquitoes” as “quite troublesome.” The Kentucky River flatboatman John G. Stuart claimed the Mississippi River mosquitoes were “almost twice as large as those in Kentucky.” Also annoying were swarms of mayflies—also known as “fishflies,” “sandbarflies,” “shadflies,” and, by the mid-nineteenth century, “Mormonflies.”23

The meeting of the Missouri and the Mississippi forms an important geographic juncture. A few miles upriver from the Missouri’s mouth, the Illinois also joins the Father of Waters. The combining of these three rivers noticeably changes the width, depth, color, and current of the Mississippi River. The

22. Jessica Gorman, “Phenomena and Curiosities: Your Branch or Mine?” Smithsonian 36 (June 2005), 39–40. Fireflies mark only the western entry into the Mississippi Valley; they are common east of the Appalachians.
change is so significant that it marks the beginning of what river folk call the “lower Mississippi.” As one sails southward, the high bluffs that characterize the upper river slowly (though never completely) decrease. With decreasing elevation, the banks abutting the river feature more floodplains, marshes, and willow rushes. The Mississippi continues to gather momentum as it rolls towards its juncture with the Ohio.

John James Audubon, like most river travelers and naturalists before and after him, took particular care in recording his entry from the Ohio into the waters of the lower Mississippi River. Here, “the Traveller enters a New World” that “awakes him to troubles and Difficulties unknown on the Ohio”:

> The meeting of the Two Streams reminds me a Little of the Gentle Youth who Comes in the World, Spotless he presents himself, he is gradually drawn in to Thousands of Difficulties that Makes him wish to keep Apart, but at Last he is over done Mixed and Lost in the Vortex.  

For approximately nine hundred miles, from the confluence to New Orleans, the lower Mississippi River features sweeping floodplains, swampy lowlands, and a rich delta, interrupted only by a few significant rises at Chickasaw Bluff (Memphis), Walnut Hills (Vicksburg), the Natchez Bluff, and Baton Rouge. Near New Orleans, the valley literally becomes subtropical, as marshes become bayous and the river winds towards the Caribbean and Gulf of Mexico.

Along the way, the river is rendered even more powerful by entry of the Yazoo, White, Red, Ouachita, and Arkansas tributaries. According to Zadok Cramer, the lower Mississippi was in places a mile wide and thirty to fifty feet deep. Naturalists and other river travelers were awed by the swift-moving (three to five miles per hour) and “remarkably crooked” river. They described scenes of “terrific grandeur” caused when “a mass of

yellow muddy water” destroyed entire riverbanks and forests as it swept southward.  

The water was silty from the tons of rich, fine-grain sediment it carried. Although much of this sediment found its way to lower Louisiana and the Gulf of Mexico, some was left along the way. From one hundred miles north of the Chickasaw Bluff to below Natchez, this thick deltaic sediment began to form what we know today as the Mississippi Delta of Tennessee, Arkansas, and Mississippi.

Climate changed too. Audubon described the high winds that swept the valley, impeding navigation. Above the Walnut Hills, winters could be as cold as the Ohio, upper Mississippi, and lower Missouri River Valleys. Freezing rain and sleet were common; the river did not freeze over, but sheets of ice could and did appear. Snow was recurrent above Chickasaw Bluff, and sometimes fell to the south. But with entry into the subtropics, winter weather markedly improved. Landing in Natchez in December of 1820, Audubon wrote, “The Naturalist will immediately remark [on] the General Mildness of the temperature” and the availability of fruits and vegetables not seen northward until “April and sometimes in May.” Approaching New Orleans, the valley’s heat and humidity were stifling. Here, thunderstorms became tropical storms, and on occasion, hurricanes rolled in from the Gulf of Mexico, wreaking havoc.

Plants and trees grew even more prodigiously than in the upper Mississippi Valley. In the early 1800s, the French traveler M. Perrin du Lac described the Mississippi’s shoreline between the confluence with the Ohio and the mouth of the Arkansas as an unbroken, wild, and immense forest. Some of the trees were coniferous (cedar and pine), but deciduous hickory, walnut, poplar, and oak were most abundant. To the south, Louisiana’s

cypress-forested bayous were home to “almost impenetrable” canebrakes. Audubon wrote, “The Woods here have a new and very romantic Appearance—the Plant Called Pamitta [palmetto] raises promiscuously through them [and Spanish] moss on every tree darkens the undergrowth.” This verdant wilderness formed a habitat for “hundreds of Beautifully Plumed inhabitants.”

“The Intrepid Hawks are extremely plenty along the Banks of the Mississippi,” Audubon observed. He also saw and studied the “Turkey Buzzard … Sand Hill Cranes—Malards—Crows … Winter Wrens—Meadow Larks—Partridges, Red Winged Starlings—and Vast Numbers of Swamp Sparrows in the High Mississippi grass, Parokeets—Golden Crowned Wrens … Carolina Wrens and Cardinals.” In the butcher stands of New Orleans’s Market Square, Audubon found “much and great variety of game,” including teals, widgeons, “Snow Geese,” bluebirds, and a “Barred Owl.”

The bayou country was full of reptiles. Water moccasins thrived, and in 1820 Audubon drew an image of a rattlesnake measuring “5 7/12 feet Weighed 6 ¼ lb had 10 rattles.” Exploring the swampland around New Orleans, he observed that “several toads were hop[ping]ing about … [and] on turning a Dead Tree over, we found several Lizards, who moved with great Vigour—.” Throughout his Mississippi Valley wanderings, Audubon sighted turtles—“green” and “snapping” (he was primarily interested in their status as a food source for large predator birds). Frogs abounded, ranging in size from small cricket and green frogs to huge bullfrogs. Across the valley’s marshy lowlands, bullfrogs (*Rana catesbeiana*) measured eight inches in length, often weighing about a pound and enjoying an average lifespan of eight years. Aggressive predators, bullfrogs dined on insects, smaller frogs and toads, and even turtles, mice, and ducklings.

Larger beasts of prey made the lower Mississippi Valley their home. On a single outing, Audubon sighted a “Cougar, called

31. Ibid., 123, 68.
here a *Painter* [Panther]” and noted, “Bears and Wolves are plenty.” Like many naturalists, he was most fascinated by alligators. Local swamp hunters told him gators “could be seen every few day[s] … they are killed here for the Skin… They move slow on the ground—but swiftly in the Water.” One hunter told Audubon he owed the gators “a Grudge for killing an excellent hunting Dog.”

Despite being surrounded by a diverse ecosystem with exotic flora and fauna he had never before witnessed, John James Audubon remained fascinated by the lowly catfish. Common throughout the entire extent of the Mississippi River Valley, catfish somehow possessed a mystique rivaling the bald eagle and alligator. References to catfish pepper the journals of naturalists and other travel writers. And hunters like Audubon ranked catfish among their prized quarry:

I was taken off Suddenly a few Minutes ago to take a Cat Fish of[f] our line, I had some trouble for a few Moments but having drowned him put my Left Hand in his Geels and hauled it in the skiff—it weighed 64 ½ lb and Looked fat—Killed It by stabbing it about the center of its head… I would be Inclined that, from shape, Size, Color & habits so different to those of the Cat Fish Caught in the River Ohio the present One is a different Species.33

The tropical world of the Caribbean beckoned. The environmental transition had, of course, also caused a transition of human culture; ethnicity, language, food, architecture, and folk culture all began to reflect diverse Caribbean influences. While Saint Louis, Natchez, and New Orleans certainly shared similarities, their differences reflected the changing ecosystem. Sailing south, all travelers were struck by this steamy new world of bayous, palm trees, and alligators.34

In its final hundred miles, the Mississippi meanders through the vast swamplands of southern Louisiana to the Gulf of Mexico. Du Lac described this land as unfit for agriculture because it was inundated by the river. In fact, the river met, and

32. Ibid., 55.
33. Ibid., 38–39.
was simultaneously inundated by, the salt waters of the Gulf. Cramer described this land, “chiefly covered with reeds, having little or no timber,” as a veritable “morass, almost impassable for man or beast.” Nearing the ocean, the Mississippi ceases to be a single identifiable river. It branches into riverine “passes,” each flowing along a different course into the Gulf of Mexico.35

On the Gulf Coast in 1837, John James Audubon wrote, “My Spirits are not above par.” His melancholy, however, was an aberration, a temporary setback. Always ready for another adventure, and anxious to study and depict the natural world of North America, Audubon remained hopeful. “Tomorrow,” he wrote, “I expect to be cured, by a dance over the Waters of the Mexican Gulph—and then all will be right again.”36

35. du Lac, Travels through the Two Louisianas, 101; Cramer, Navigator, 336–37.