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Only a River

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Only a River

> *Because rivers are the ultimate metaphors of existence…*
> —*John McPhee,* Encounters with the Archdruid

There are two Mississippi Rivers, nature's and ours, constructed by very different forces despite having, for the last several centuries, a shared history. This is cause for some confusion. Often, it is the first, nature's river, that is spoken and thought of, but it is the second, the river people have constructed, that is seen, and that is mistaken for the first.

NATURE'S RIVER

Nature's Mississippi River is made of gravity and the dynamic interaction of water and earth and life. Before there were people living along its edge it was running, big and muddy, downhill to the sea. About 15,000 years ago melting glaciers sent a torrent of water down the center of the North American continent in an enormous braided stream, depositing millions of tons of sediment on the valley floor. Dirt accumulated and eventually blocked the streams, forcing them to take new paths across older sedimentary deposits and cutting out great fluvial terraces that remain prominent features of the topography. This process of building and cutting continued until glacial runoff at last diminished and the river slowed, becoming the single wide, meandering stream we know. It carried much more silt than before, in part because it moved more slowly, in part because retreating ice fields exposed more of the continent to erosion. The river also dropped more sediment along the way, rather than rushing so much of it to the gulf. A giant fan of Pleistocene dirt the size of the state of Louisiana still rests far out on the bottom of the Gulf of Mexico, a remnant of a lower sea level and the original, faster river. But over the last 10,000 years sediment has piled on the floodplain and the coast near its mouth.

The Mississippi Valley is older than the river that runs through it. Two million years ago the American, European, and African continents smashed together, for a geological moment squeezing

the Atlantic Ocean out of existence, throwing up the Appalachian Mountains, and collapsing the land to the west of the new mountains. Properly speaking, it is not a valley at all, because it was not etched into the land by centuries of flowing water. It is rather a continental depression that the river slowly fills with mud. It is a rising, not a sinking valley, the Grand Canyon reversed. And, like the Grand Canyon etched into the desert by the Colorado River, the Mississippi Valley is a work in progress, its clay shaped and reshaped by its own sculptor river.

The Mississippi's shift from a braided to a single stream altered the natural environment. The several rushing streams rarely overflowed their banks. The valley floor was dry and rather sandy. The rich black soil and the wetlands of the valley developed later, after the emergence of the single meandering stream that regularly inundated the adjacent land, leaving a trail of swamps and oxbow lakes that enriched the diversity of flora and fauna. The entire lower valley from Illinois southward comprised an ecological wetland, a vast expanse of rich, black, wet dirt, nourishing a mature hardwood forest that crowded out the pine and spruce trees that receded northward with the ice. The mixture of water oak, ash, elm, willow, cottonwood, tupelo, cypress, and sweet gum, to name only the most prominent trees, varied from north to south, according to seasonal mean temperature, and with variation in soil moisture. Scattered sandy islands thickly matted with cane dotted the plain. Numerous species of birds, reptiles, and mammals lived in this rich environment. The lakes teemed with fish, shellfish, amphibians, and crustaceans.

Ten thousand years later the Mississippi River remains a mighty and relentless builder, delivering 650,000 cubic feet of water to the Gulf every second of every minute, all day, every day. That is an amount of water roughly equal to the water that would be sent to the sewers if 19.5 million people stood at their toilets and flushed continuously, all day, every day. Whereas toilet water is easily wasted, the Mississippi, by moving earth from around the United States to the valley, and from here to there within the valley, puts its water to work, shaping the landscape, fashioning terraces, erecting levees, digging channels, constructing lakes. The river carries 300 million metric tons of insoluble sediment to the Gulf of Mexico every year, and another 150 million tons of dissolved matter, gathered from

such far off points as Montana and New York. A train 24,600 boxcars long, fully loaded with dirt, would have to run daily to keep up such a pace. Millions of tons more are dropped along the way. In Louisiana, natural levees can rise as much as three feet from the new sediment deposited in just one flood.

Much about the Mississippi River's natural history is "documented" by its deltas, of which there have been seven. La Salle's delta, when he first visited it in 1682, was only the most recent. It took several thousand years following the last ice age for the Mississippi River to begin building its first delta. A thousand years later the river jumped to the east and began a newer delta. Like a raindrop running down a car windshield, it jerked and jumped back and forth five more times before Europeans arrived—back to the west, down Bayou Teche, far to the east where it built the Chandeleur Islands, west again, this time down Bayou La Fourche, back east and down its current route through Plaquemines Parish, and then out into the Gulf, building what is known as the Balize Delta. The shifts are quite regular, about every thousand years, but every so often the inexplicable and unpredictable happens. Off and on in the late seventeenth and early eighteenth centuries part of the river leapt back to its old La Fourche channel, creating what some members of La Salle's party called La Fourche, or The Fork. In 1700 Iberville could not find it, but it was back twenty years later, according to personal accounts and maps. There is today yet another delta emerging, an eighth, in Atchafalaya Bay, the same location as the first delta built 5,000 years ago. The river has not finished its work.[1]

For the last ten thousand years nature's river has included people whose own histories have shaped and been shaped by it. The valley's wealth of flora and fauna have fed some of the largest and most sophisticated native societies in North America—their earthworks take one's breath away—even as its poverty of stone and hard metal hastened them to fashion trade networks that reached from the Great Lakes to the Gulf of Mexico, and from the Rockies to the Alleghenies. They lived with and off the wetness of the floodplain environment. A Tunica legend hints at how they and their Mississippian ancestors incorporated water into their cosmology. The legend tells of villagers dancing, unafraid, as the Mississippi River rises to engulf them. One terrified man runs. Returning several months later the man finds nothing but water and leaping fish.

Upon closer inspection he sees the fish have human heads, what today would be called mermaids and mermen, his people having magically adapted themselves to the flood, their leaping being a continuation of their dancing.

Others have had a more difficult time contending with the river than the Tunica of legend. In the late spring of 1541, a fleet of archers from the west bank town of Aquixo kept Hernando de Soto and his army of invading Spaniards pinned down for nearly a month on the river's east bank not far below present-day Memphis, until the invaders constructed the rafts necessary to ferry themselves with all their horses, pigs, rations, and heavy iron armor safely across a mile of turbulent water. Three hundred years later at about the same spot, a Choctaw named Tushpa prepared to cross the river. He was on his way to Oklahoma, forced to migrate by the same relocation program made infamous by the Cherokee Trail of Tears, and he knew full well that by crossing the river he was ending something, ending maybe what the Spanish had begun.

Amid the hope and promise of the American Revolution, a Connecticut Yankee named Matthew Phelps packed up his young family and sailed to a new life on the Mississippi. Among the misleadingly placid cypress swamps and cane breaks above New Orleans, his wife and newborn baby succumbed to a malarial fever. Phelps and his young sons pushed on. Somewhere above Natchez a whirlpool caught their small boat and instantly flipped it, drowning the boys. For a few years the man worked his small farm alone, near the water's edge, while he waited for the river to show some indication of remorse. It never did. Alone, he returned to New England to live another life. Few today have had the trajectories of their lives so altered by the Mississippi River as Phelps. Those who have are not inclined to take it as a matter of course, but rather to view it as a tragic mistake, a failure of engineers, policy makers, and insurance companies. Rivers as lived experiences, as regular and expected forces in human history, are all but gone.

On the evening of May 3, 1849, a swollen Mississippi River broke through the levee at the Sauvé plantation upriver from New Orleans. By mid-month the city's second ward was a lake. When the water rose above the doorsill, residents moved into their upper story, if they had one, and fled if they did not. By early June the seventh ward lay wet and deserted. The city's poor were hardest hit. Wrote

the editors of the New Orleans *Bee*, "Others can pay for boat or carriage hire, or can move away from the vicinity of the overflow, but the poor have no choice. They must remain, and to wade through the water half a dozen times a day is to risk their health and life." By the end of the month, volunteers with skiffs were evacuating the poor. "We have heard that in the back part of the 7th Ward, there are whole families almost literally in a state of starvation, having neither money to procure food, nor the means of reaching the markets." Not until June 10 did the water begin to recede. The flood of 1849 stands as the worst of the nineteenth century. It lasted forty-eight days, during which time perhaps twelve thousand residents of New Orleans, nearly one in ten persons, temporarily left their homes. Reports of the flood calculated the human and financial costs but never characterized it as a disaster, natural or otherwise. They also told of people frolicking in the waters, not unlike the Tunica in their day.[2]

In 1874 James Buchanan Eads finished his bridge across the Mississippi, the first built below the mouth of the Missouri River. He accomplished this feat five years *after* the completion of the first transcontinental railroad. For five years West and East remained divided not by mountains or deserts or plains, but by a mile-wide ribbon of water. As a feat of engineering and architecture, if not of financial and bureaucratic organization, Eads's bridge matched the transcontinental railroad. His incorporation of steel and masonry represented a giant structural leap not equaled until the great skyscrapers of the next century. If he built his bridge too late to prevent Chicago from emerging as the nation's railroad hub, Eads nevertheless succeeded in breathing new economic life into St. Louis. With his bridge he also showed, just as the Union Pacific demonstrated for the snowy mountains to the west, as the trans-Atlantic cable, the Panama Canal, and Apollo 11 would each in their day prove, that no natural barrier could thwart industrial progress or the Manifest Destiny of the United States. Today more than twenty bridges cross the Mississippi below the one Eads built.

OUR RIVER

Our Mississippi River is an imagined river, frozen in time and place, suspended by memory and imprisoned within earthen walls. It is a dead relic with meaning today only because of what some like to

believe it once meant. It is trotted out for sentimental reasons, then it is forgotten. Tourists in search of Mark Twain's America cruise it on modern, "old-fashioned" stern-wheelers that glide past petroleum refineries at night lest the unsightly smoke, steam, flames, stacks, coils, tubes, and storage tanks that line the stretch of bank known as Cancer Alley ruin the mood of historic romance. Dozens of coffee-table books and memoirs represent the river nostalgically in photographs and stories that recount their authors' canoe trips down Big Muddy as they played at being Huck Finn. The titles are revealing: *Old Glory: A Voyage Down the Mississippi, River of Forgotten Days, The Road of Souls, Fabled Land/Timeless River, The Timeless River, Immortal River, Old Man River and Me: One Man's Journey Down the Mighty Mississippi, Around the Bend: A Mississippi River Adventure,* and *Mississippi Currents: Journeys Through Time and a Valley*, to name a few. Authoring and publishing "Mississippi Riverana" has become a tiresome and clichéd cottage industry.

The picturesque Mississippi of popular memory was never really that. To offer one example, in Twain's day the appetite of steamboats for timber was voracious. They consumed trees as fast as they could be felled, cut, and stacked along the water's edge. Moreover, in a misguided effort to keep the river channel clear of driftwood and snags that would interfere with riverboat traffic, the banks were systematically stripped. By the Civil War, the banks of the Mississippi River in many places were denuded and rapidly eroding, adding to the sediment load and altering the quality of the water.[3]

The river is not only frozen in memory but in recent time and place by the Mississippi River and Tributaries Project. More than 1,600 miles of levees several stories high, and at their base the width of a football field, line most of the river below Cape Girardeau, Missouri. Set back from the channel, they are designed to control floodwaters. If the volume of water becomes too great for the levees to contain, spillways direct the excess into reservoirs and sea outlets. In addition, artificial cutoffs have shortened the river by a hundred or more miles, sending more water downstream faster, which reduces upstream flooding. The intent has been, largely for the sake of modern farming, to block the river's access to its flood plain.

The last great flood in the lower valley occurred over three quarters of a century ago. In the rainy spring and early summer of 1927, a rain-swollen river forced its way through reinforced levees, sending

one million people running for higher ground. Nearly a thousand never made it. When the waters receded accountants and adjustors moved in to reckon the financial toll. They put it at one billion dollars, charged to an already weakening national economy. Coming at the height of the Roaring Twenties, the flood brought national attention to southern poverty and segregation. It foreshadowed the dustbowl and depression years that would shortly follow.

The Mississippi River is still very capable of overflowing its banks, of causing billions of dollars of damage, of taking lives, as it did in the middle valley in 1993. However, for Americans who live well beyond the floodplain, and who do not have friends and family there, a rising Mississippi, if noticed at all, is an amusement, a human interest story. The flood that followed Hurricane Katrina was exceptional for capturing the nation's concerned attention as few floods do. In most cases of flooding—here New Orleans post-Katrina followed a familiar pattern—news reports express amazement, not at the rising water but at the human failure to control it and at the federal government's failure to respond quickly enough with emergency relief dollars. A flood is just another excuse for political debate. It is a problem that, like a broken sewer, can be fixed quickly and easily if those in charge are the least bit competent. Meanwhile, as the river floods, those who are amused can watch its progress remotely in the press and by way of satellite images provided by any of several websites.[4]

Sentimental memories and engineers' control structures help keep the Mississippi River of past and present at a distance, so they don't have to reckon with what it was and is, a powerful force moving through time and space, often unpredictably, chaotically. Whereas once people imagined themselves as part of the Mississippi River Valley—recall the Tunica legend—in more recent times people have come to imagine that they can and ought to stand apart from it. They place it outside their own time, in a mythical past of Mark Twain and steamboats. They place it outside the physical world, behind giant earthen and concrete walls. They imagine the river has no nature, no force, no history of its own, and thus they imagine they control it. When they fail to control it, they blame each other, or else they pretend that natural patterns of flooding that have recurred for millennia are rare, improbable exceptions, accidents, disasters. They anthropomorphize the river, attributing to it such

emotion as anger, and such intent as revenge. What they don't do, at least not often enough, is see the Mississippi River for what it is, a river following its own nature.

DON'T DRINK THE WATER

The Mississippi is not timeless. It is not fabled. It is not mythical. It is neither immortal nor old and forgotten. It is not poetic. People imagine all that. The Mississippi River does nothing to inspire poets and engineers; it is they who are inspired by it, on their own and for their purposes.

Perhaps a third of Americans draw their drinking water from the Mississippi watershed, which they eventually flush down the toilet in one form or another, returning it to the river to be consumed by people farther downstream. This transfer of fluids is repeated many times over, from Montana to Louisiana. New Orleans sits at the end of the stream, and so the old joke, that each glass of water filled in New Orleans has on average passed through ten people.

The Mississippi River is water main and sewer. It waters most of our country, and it washes away much of our garbage. It provides both services quickly and efficiently not primarily because of any human modifications, but rather because it remains nature's river. It moves our dirt as it has moved the continent's dirt for thousands of years. Levees designed to repress nature's river but simultaneously allow it to flush away our refuse are like straightjackets; they signify both our control and lack of control. Like all mains and sewers, the Mississippi and the work it does for us is hidden out of sight and mind, except on the occasions when it breaks out and demands our attention. Otherwise it is ignored, denied, repressed, while people take from it what they need and dump into it what they do not.

In 1802 the people of New Orleans drank the water right out of the river, although they were smart enough to draw it from the upriver end of town. They apparently saw two Mississippi Rivers, one above the city and another below it. Unfiltered, its fine, undissolved sediment gave it a milky appearance. Still, filtered or not, it was said to be "Clear, Cool & pleasant as Water can be & no doubt wholsome [sic]." No doubt. It is not so wholesome today. Upriver, downriver, or anywhere in between, there appears to be only one river, and it is laced with endrin, nitrogen, phosphorous, nitrate, nitrite, benzene,

carbon tetrachloride, hexachlorobenzene, polychlorinated byphenols, styrene, arsenic, cadmium, lead, zinc, copper, mercury, and uranium. One does not have to know what these substances are or what they can do if consumed in quantity to be justifiably frightened by them. Most enter the river system as runoff from pulp and paper plants and mines in Wisconsin, Illinois, and Missouri, textile and paint factories in the Ohio Valley, petroleum refineries in Louisiana and Mississippi, and farms along the entire length of the river and its tributaries. Municipal sewage dumping accounts for high levels of fecal coliform found in the river. Officials and environmental watch groups debate the actual and recommended "safe" levels of suspended particles and dissolved matter in the water as they argue over better purification methods. They make people safer from it by restricting their access to it. Regardless of whether or not the many toxins and pollutants exceed government guidelines, most people surely know that the water cannot be good for us.[5]

Human meddling over the last two centuries has changed not only the water but also the valley. Two-thirds of the original bottomland forested area has been cleared. What remains is a blend of recent human and natural efforts to regenerate what was once a tremendous hardwood forest broken only by swamps and open "parks" created by fire touched off by lightning and by people. Early in the twentieth century, the last stands of old growth pine and cypress fell before an onslaught of timber companies. Old growth hardwood—oak, hickory, walnut—disappeared soon thereafter. Much of the forest, the cypress groves especially, has not regenerated naturally. Reforestation efforts have met with mixed results. The soil is drier than it used to be. Coastal marshes have a higher saline content. Many places are no longer suited to some formerly predominant species of trees. Deforestation has reduced the capacity of the land both to retain moisture and to hold topsoil against torrential rains. The valley is now more susceptible to water erosion and to drought. The smaller volume of organic matter—rotting trees, fallen leaves, and so forth—has weakened the land's ability to generate new topsoil. This has had a negative impact on agriculture, the facilitation of which was the reason for clearing much of the forest in the first place. Farmers and agribusinesses have compensated for deteriorating soil quality by dumping increasing amounts of fertilizers onto the land—hence the nitrogen and phosphates found

in the water. The disruption in the life cycle of the forest has at various times made forest fires a problem. Small trees in dry soil ignite easily. During the 1920s, according to some estimates, fires scorched yearly as much as half the total forest in the state of Mississippi.[6]

Over the last two centuries, Louisiana, Mississippi, and Arkansas have lost nearly sixty percent of their wetlands. Only Florida and Texas have lost more total acreage than Louisiana and Arkansas, each of which has lost over seven million acres. Mississippi ranks not far behind, having lost 5.8 million acres. Deforestation and wetlands loss are national, indeed, global phenomena. Over the course of the twentieth century, the world has seen the disappearance of fifteen percent of its wetlands. Since the end of colonial era, the United States has lost half its swamps and marshes, nearly 100 million acres, and may have lost nearly twice that amount during the colonial era as a result of the near-eradication of the beaver. But beaver were never numerous in the alligator bayous of the lower Mississippi Valley, so the loss of marshland in that region can be attributed directly to agriculture and to modern real estate development.[7]

In addition, Louisiana and Mississippi have been losing their coastal marshes almost as quickly as they have been losing their interior wetlands. As recently as fifty years ago, Louisiana and the U.S. Congress were considering investing in reclamation schemes that would turn coastal marshland into farmland. Today, the land is disappearing altogether. Channel reconfiguration around and below New Orleans has stopped the annual floods that formerly spread sediment across a broad delta. As a result, the delta keeps getting longer and thinner. Hydrologists still classify it as a "bird foot" delta—there are several types of river deltas—though the talons are disproportionately long, and the feathered rough is gone. Mostly bone remains. Soon it will be a stork leg delta. Reconfiguration has increased the speed of the Mississippi River somewhat by narrowing it, the effect of which is the same as putting a thumb over the end of a garden hose. Sediment carried by the river is shot out into the Gulf of Mexico, where it drops to the sea floor, rather than collecting along the coast. (Pollutants, too, are sent farther into the Gulf where some stimulate the blossoming of algae, great clouds of which annually create "dead zones" by depleting dissolved oxygen and suffocating fish and shellfish.) The real problem, however, is

that the river's mouth extends so far out into the Gulf beyond the coastline, farther every year as the thin delta lengthens while the coastal estuaries recede, that even if the river dropped its sediment at its mouth it would no longer add much to the coastline that falls farther and farther behind it. Gulf waters that erode coastal marshes and inundate brackish areas with higher concentrations of saline also kill cypress trees and destroy bird and shellfish habitat. In 1802, a visitor to New Orleans admired the abundance of fish, oysters, and turtles gathered within two to three miles of the city and served fresh daily. These days, the fish and oysters are likely to be farmed, and New Orleans is sinking.[8]

The river has changed right along with human-induced modifications, adapting as a river, but not the same river it was a few centuries ago. A modified forest has affected the variety of wildlife, although not necessarily by reducing diversity, a common yardstick for measuring environmental change and overall health. Even had they not been hunted to near extinction, black bear, cougar, and wolves would have disappeared anyway, along with the environment that sustained their populations. They have been replaced by introduced species. Generations of cats descended from abandoned or lost pets have been born in valley forests and are now as much a part of the natural landscape as wild hogs, kudzu, dandelions, and other non-indigenous flora and fauna. In the 1930s several Louisiana businessmen imported nutria, muskrat-like rodents, from Argentina, primarily for fur farms. They escaped into the wild and multiplied. By the late 1950s their number reached perhaps twenty million, their proliferation assisted by the over-hunting of alligator. Nutria eat anything green, and consume up to twenty-five percent of their body weight in swamp vegetation per day. For over half a century they have been eating away Louisiana's wetlands. They have also been known to forage in fields of rice and sugar cane. It is ironic that some of the first nutria were brought to Louisiana to control the spread of water hyacinth, itself a South American import. Only the recent resurgence in the number of alligators promises to keep the nutria population in check.[9]

Change has been good for some indigenous creatures, especially the small, fur-bearing animals that once fed larger predators. White-tailed deer, once nearly extinct, have been reintroduced. They thrive at the edges of fields, abandoned homesteads, and highways, and

helped by conservation authorities have ballooned in population. They may be more numerous than ever before, although their numbers are monitored and controlled. The wild turkey population has followed a similar trend. It is no wonder the valley has become something of a sportsman's paradise.

There is a surprisingly healthy diversity of fish species in the Mississippi River, which, owing to its size, is able to absorb or quickly flush away much of what gets dumped into it. Fish have short life cycles, and they exist well down the food chain. Notwithstanding some spectacular kills following the dumping or accidental spilling of large amounts of toxins—in 1963–1964 high concentrations of endrin below Baton Rouge killed five million fish—fish are likely to die naturally long before even the most toxic pollutants can kill them. Nearly all the world's groups of freshwater fish can be found in the lower Mississippi River, in addition to numerous migratory fish—saltwater fish that occasionally make forays into freshwater environments.

It is the eating of them that is not so good. Fish in the Mississippi do not, as a rule, die from pollution. They store it in their flesh and pass it along to predators. According to one study, people who eat more than three meals of fish per month significantly increase their lifetime risk of cancer. And so, although government regulatory agencies will not tolerate a commercial fishery of the sort once supported by the Mississippi River, the risk of cancer does not stop many private citizens from consuming their catches in amounts that cannot be healthy.[10]

Some of the fish, like the chemicals, are recent additives to the river. Several species of Asian carp, for example, introduced in the twentieth century, threaten to crowd out indigenous species that compete for the same food. For the carp—the rat of the fish world—pollution has been beneficial because it has weakened rival indigenous species that are more vulnerable to the toxins.

Indeed, the Asian carp sums up much of the recent history of the Mississippi River. Catfish farming has emerged as a thriving business in the lower valley, replacing the river fishery destroyed by pollution. The fish tanks, however, must be carefully protected from contamination by the river. The barrier between tank and river is imperfect. When river water leaks into the tanks it contaminates the catfish, which farmers must then destroy. So farmers

introduced Asian bighead carp to the tanks to clean them. When carp escape—leak?—from the tanks into the river, however, they contaminate it, spreading like a virus up and down the river and its tributaries, destabilizing the food chain and setting indigenous species of fish on a path to extinction. Some biologists have suggested adding nitrogen or some other chemical into the river in selected places, in blatant contradiction of the Clean Water Act, to control the spread of bighead carp.

Chemical pollution led to fish farming, which led to bighead carp, which itself is a kind of pollution that may lead to still further chemical pollution until the river is so toxic that even Asian carp cannot survive. What is certain is that the river that once existed, free of added chemicals and carp, is gone for good, and strategies of managing the river today will surely fail if its many managers forget that fact. Carp are no longer "exotic" species. Like the chemicals, they are now very much a part of the river and its ecology. They belong to nature's river, which remains no less "natural" despite its changed nature.[11]

Many fear the river today, with good reason. It is a toxic soup. Fear is part of the appeal of the romantic "riverana." The river of yore was clean and safe. It was a refuge for Huck and Jim, who faced their gravest dangers from people on land. The Huck Finn re-enactors are time travelers. Safe in their boats from our river, they imagine they drift down Twain's. But swimming the river, our river, and getting wet with its toxic water, occasionally even gulping it, that is not so romantic. On the Fourth of July 2002, Martin Strel hopped into the Mississippi in Minnesota and began a 2,300-mile swim to the Gulf of Mexico. (Stel is a marathon swimmer who two years earlier swam the Danube, and who has since swum the Yangtze and the Amazon.) "I swim for peace, friendship, and clean water," he told reporters. But the river was crowded with the flotsam and jetsam of humanity: boats, barges, freighters, logs, and dirty diapers. An infection cost him his hearing, temporarily. He also contracted conjunctivitis and suffered painful intestinal gripes. His greatest scare came, though, not from anything human-made, but from lightning, which nearly struck him during a storm.[12]

It may be that the Mississippi River is a sewer and serves human needs; nevertheless, it continues to do its own work, what it has done for twelve thousand years. It continues to assert its own familiar character. For example, it is the nature of rivers to take the shortest, steepest route to the sea. If the Mississippi turned right not far above Baton Rouge and flowed down the Atchafalaya Basin to the Gulf of Mexico it could shorten its trip by one hundred and fifty miles. That is what our sewer line wants to do. It has changed course before, three times in the last three thousand years. For the moment a concrete barrier—a "control structure"—holds the river in place. For how long is anybody's guess. "Sooner or later, it will be undermined or bypassed—give way," Raphael Kazmann, a hydrologic engineer from Louisiana State University, told writer John McPhee. "I have a lot of respect for Mother...for this alluvial river of ours. I don't want to be around here when it happens." If the river changes course, it will abandon New Orleans and the entire industrial corridor up to Baton Rouge to the eroding waters of the Gulf of Mexico. If that happens, it will not be because of anything humans have done to the river. It will be because it is in a river's nature to find the shortest, steepest route to the sea.[13]

More consideration needs to be given to the river as a river, and to the matter of how people might live with it as a river, as the Tunica did, perhaps, or even as the residents of New Orleans did during the flood of 1849. It might be useful to break down the barriers—the mental barriers first, and then, cautiously, some of the material barriers—between land and water, wet and dry, solid and liquid, past and present, and most of all between nature's river and our river. We might start by imagining a Mississippi River that was safe to drink. A politics of conservation must be based on acceptance and understanding of nature, not fear and denial of it. That will not be easy. There is much that makes living with the river difficult, even dangerous to our health, and serves only to push us back from it. The Mississippi River is dangerous, its floods disastrous, its waters poisonous. But it has always been dangerous, as Matthew Phelps learned over two centuries ago. For rivers have their own natures, and efforts to possess and control them are doomed to fail.

Notes

1. James M. Coleman, "The Dynamic Changes and Processes in the Mississippi River Delta," *Geological Society of America Bulletin* 100 (1988), 999–1015. Antoine Simon Le Page du Pratz, *The History of Louisiana* (reprint of 1774 edition; New Orleans: Harmonson, 1947), 114. The Fork was very likely the two-hundred-yard wide River of the Ouachas that Iberville observed in 1699, but which he thought flowed into the Mississippi from the west. There was no tributary that size below the Red River, and I suspect during the flood that spring Iberville had trouble discerning which way the water was flowing. The Fork is, of course, Bayou La Fourche. Iberville, *Gulf Journals*, 58.
2. New Orleans *Bee*, English language edition, May 5, 17, 18, 23, 26, 31 and June 1, 6, 10, 12, 16, 1849, available online at http://www.jefferson.lib.la.us/genealogy/NewOrleansBee.htm, accessed April 30, 2007.
3. Ari Kelman, "Forests and Other River Perils," in Craig E. Colten, ed. *Transforming New Orleans and Its Environs: Centuries of Change* (Pittsburgh 2000), 45–63. On the differences between history and memory see Richard White, *Remembering Ahanagran: Storytelling in a Family's Past* (1998).
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